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those who wish either to buy or dispose of farms or farming lands,
stocks, &c., is particularly called to the advantages which a circulation
of nearly twelve thousand offers to them throughout the State
of Michigan.

CONTENTS.

Agricultural.

Agricultural College—the Farm—the Buildings.....	129
On the structure and functions of Insects.....	131
Hints on rotation and Farm accounts.....	134
Potato experiment—large vs Small Seed.....	135
Sweet Sorghum.....	136
On raising calves.....	137
Plan of a barn, sheds and yard.....	137
F. E. Eddred's horse stock—Live on Clover hay.....	139
Rotation of crops for prairie lands.....	139
A 40 acre calculation.....	140
Hair Snakes—By A. Beauchamp.....	141
Cultivating Marshes.....	142
On the use of Chaff for bedding horses.....	142
Hair Snakes not hairs—By J. Gage.....	143
Bees in the Gilmore hive.....	143
Potatoes and their growth.....	144
April weather, past and present.....	144

Horticultural.

New native grapes.....	145
To raise gooseberries without mil dew.....	147
Remedy for the Curculio.....	147
A few things which may be done in the garden this month.....	147
The flower border.....	148

Household.

From our young correspondents.....	150
Enigmas—Answers.....	151
Marriage notice.....	151

Editorial.

Michigan Agricultural College.....	152
Markets, Wool &c.....	152
Notice of Shorthorn Bull Sirelolo.....	152
Portrait of Duke.....	153
Stock Register.....	153
Law of Graduation lands.....	154
Jackson Co. Agricultural Society.....	154
Manny's Mower and Reaper.....	154
Measuring hay in stacks.....	154
Editorial notices.....	155

The Agricultural College.

During the past month we paid a visit to the State
Capital for the purpose of examining in propria persona,
the condition and prospects of the Agricultural
College, and the amount of progress which has been
made, to fit it for the reception of pupils and for
their instruction, and also by actual survey to under-
stand the condition of the farm, previous to the
opening of the institution.

THE FARM.

The State Agricultural College of Michigan is lo-
cated about three miles to the east of Lansing, and
is endowed with a piece of land containing a little
over 700 acres, which is divided into two parts by
the Grand River, which flows through the lot. This
land is like all in that section, heavily timbered and
has as yet undergone but little improvement. Some
twenty or thirty acres had been chopped before the
purchase was made, and during the past summer and
winter, there has been cleared about one hundred
acres now lying principally around the buildings, and
between the buildings and the plank road leading to
Detroit. Nearly all this land was wild, unimproved,
and uninclosed. There were no fences, even along
the highway, and the rails have had to be split, and
and the fences built, during the past winter and
present spring, which were absolutely necessary for
enclosure. The land upon which the timber has been
cut, looks and is as rough and wild, at present, as it
is possible for a new piece of land to appear. The
cut timber and brush is piled up in heaps, and ready
as soon as the season will permit, to be set on fire.
The stumps are all on hand, looking as green and as
sturdy, and as obstinate, in their determination to
retain possession of the land, as green hard wood
stumps generally appear. The surface in many
places was covered with water, especially on the flat
places, where there was little or no declivity to drain
off the water. What our farming community would
call "cat holes," had evidently been numerous.
These places are well known as the habitation of
frogs and mosquitoes. The superintendent of the

building department, Mr. S. M. Bartlett, having become painfully aware of this fact last fall, brought on a tile making machine, and set some of the men who had previously been employed in making brick, to make drain tile. These tile he afterwards used in the formation of underground drains, to convey the water from these miniature swamps which lay in every direction around the buildings. These underground drains, of which there were several hundred rods, afforded a most notable example of the utility and efficiency of tiles. Large tracts of some acres, which the year before, at this season, had been covered to the depth of four, five, eight, and even from fifteen to twenty-four inches of water, and upon which a crow could hardly alight without sinking deeply in the muck and mire, were now dry, and in such a friable and compact condition, that a yoke of oxen could be employed on any portion to turn it up with the plough.

We examined the outlet of several of the drains, and found the water flowing in a clear and steady stream, almost half filling a five inch tile. This improvement made by the use of tile drains was very perceptible, and reflected much credit upon the gentleman who planned and superintended their construction.

For the more speedy improvement of the land, from which the timber has been chopped one of Willis' far famed stump machines has been engaged to pull out the stumps. This machine was one of the three selected from all the patents in the office at Washington, by the president, the Hon. J. R. WILLIAMS, as an efficient improvement to be used for this kind of work, and the one employed has been constructed at the Detroit Locomotive Works, of the best Lake Superior Iron, for the purpose of testing its great power in clearing land completely, and making it ready for the plow, the harrow, the roller, and the reaping machine. Of the efficiency of the machine in this work, we hope to speak from personal observation in the next number. With fences unmade, with cut trees as yet unburnt, with the brush heaps "lying around loose," with not an acre that a plow ought to be put into, it is not to be expected that any important or rapid improvement can be shown before the expiration of the present season. We know it is the intention of the president to push the working of the farm far ahead as possible, and to render the institution a self-sustaining one; but we doubt whether he will be able to get ahead of the passing season, with so much work behindhand, and not even the first implement furnished for the use of the farm.

THE BUILDINGS.

The college buildings at present consist of two large three story structures, and a smaller one intended for a stable. One of the large buildings is planned and designed for educational purposes; the other

located about two hundred rods eastward from the first, is to be used as the boarding house and home of the students. Both these edifices are plain substantial brick structures, with little or no ornament outside or inside. They are massive, and imposing in appearance, and look grandly in connection with the heavy forest which surrounds them on every side. These buildings present as fine specimens of brickwork as can be found any where, and give noble testimony to the excellence of the building material which the country around Lansing can furnish whenever the time comes that it shall be needed. The inside work was not all completed when we were there, the carpenters being busily employed in fitting up the several rooms in the college building for the various purposes to which they are to be appropriated. The carpenter work has evidently been done hurriedly and coarsely, and the floors, in many of the rooms are neither very smooth nor well jointed, and compare unfavorably with the handsome brickwork. In some of the rooms of the upper story, the plastering has cracked badly, and fallen down, owing in some measure to the late season at which it was done, and the effects of intense cold; but this is an incident to which every new building is liable where such work is done at too late a date for the walls to dry before winter sets in.

The first floor of the college building is appropriated on the north side for a large general lecture room, which extends the whole width of the building; the north half is to be fitted up as a working chemical laboratory for the students. A very complete and extensive chemical and philosophical apparatus has been purchased, and was on hand, ready to be unpacked, and put in operation, as soon as the necessary fixtures, such as shelves, counters, desks, might be constructed. This apparatus has been selected by Professor Fiske, after a thorough examination of the best laboratories in the country. Professor Fiske is a graduate of the Lawrence Scientific School at Harvard University, and enters upon his duties with a strong determination to render his department as efficient as it can be made in any institution. The second story, which is reached by four separate flights of stairs intended to accommodate the several classes, is partitioned off into class rooms, recitation rooms, and rooms for the professors. The third story contains rooms for libraries, for the officers of the college to meet in, and for the use of the State Agricultural Society. The tables, chairs, desks and other necessary furniture, were being got ready and arranged at the time of our visit, under the superintendence of Professor Holmes, with all the despatch and energy for which that gentleman is so well known.

The boarding hall, likewise contains three stories and a basement. The basement is appropriated as a laundry, and as bath rooms, wash rooms, store

rooms, &c. The first floor contains the reception rooms for guests, or visitors, the kitchen, eating room, a sitting room for the students, and a suite of rooms for the use of the steward and his family. The second and third stories are appropriated and divided off into sleeping apartments for the students. These apartments are large, airy rooms, most of them furnished with two double bedsteads, and each having four chairs, a double washstand, and a bureau; there is also a good roomy closet attached to each room. Good three-ply carpets cover the floors of the bedrooms; oilcloths cover the floors of the halls, entries, and sitting rooms. The design is to instruct the pupils in the propriety of maintaining habits of neatness, no matter how coarse the work may be, and to inculcate "order" in every department. The accommodations in this building are sufficient for 80 or 90 pupils.

It must be borne in mind that the two buildings are each but one of a series which will be carried on as the wants of the state may seem to require. The college building now completed, is a wing only to a large main building, and another like wing, which it is thought must be built within a few years, or as soon as the utility of the college is demonstrated. Other boarding halls will be immediately required, as there are now more applicants for admission than can be accommodated, without permitting some to board in the houses in the vicinity.

Houses for the professors are also required immediately. The professors who have been appointed, and are employed, have either to live in the village of Lansing, or at a considerable distance from the college. To remedy this, professors' houses will have to be erected at an early date; it is proposed to begin this work by erecting four, in an oblong plot of ground set apart for that purpose in the plan of the grounds prepared by the Professor of Horticulture, and which lies directly in front of the college square, and having one front on the road leading to Detroit, and the other on the road leading from the farm to the village. These houses will probably cost from \$3500 to \$4500 each, and their erection will make a very large chasm in the appropriation made by the legislature, for the support and expenses of the institution, during the next two years, and leave but little for the erection of other buildings, after all the necessary expenditures incident to the opening are paid.

THE FACULTY.

But very little is known as yet relative to the composition of the faculty, or how many professorships it is determined to establish. So far as we could learn, the Board of Education are not prepared to make any appointments previous to the commencement of the first term, except such as are absolutely required to give form to the several most elementary departments, owing to the crude and somewhat

embryotic condition in which the institution will necessarily be as to its whole educational arrangements. All pupils entering will come in as freshmen; none will be prepared previous to the second term, to be put in a higher grade, and hence the propriety of the delay in filling up several chairs which must be established. The most elementary professors are those first required, and, we believe, are those which have only as yet been appointed. As the Board of Education does not publish its proceedings, and there are no official announcements of its doings from time to time, it was not known when we were at Lansing who were to be the professors. The Hon. J. R. Williams, we believe, has signified his acceptance of the presidency, and will probably fill the chair of practical agriculture and political economy. In the department of practice he is to be assisted by a Mr. Weeks, formerly of Massachusetts. Professor Fiske occupies the chair of Chemistry; J. C. Holmes, the well known and popular Secretary of the State Agricultural Society, is Professor of Horticulture, and Secretary of the College. We are informed that Mr. Tracy of Ohio is to be Professor of Mathematics. Other chairs will be created and filled as the necessities of the institution require. Natural History, in all its departments of Zoology, Entomology, Botany, Geology, Mineralogy, and its other branches, Comparative Anatomy, Veterinary Practice and Surgery, and Civil Engineering, will all occupy a prominent position in the course of instruction to be taught at this institution, and the men chosen to fill chairs should be not only first rate in their several departments, but all gentlemen whose acquirements will serve to give weight and standing to the College.

As the farming community is deeply interested in the progress of this institution, and as they are sustaining it with a liberal hand, its advance will be noted from time to time, and we shall watch its growth as it develops itself, with the utmost attention, praying most sincerely that it may be kept aloof from the corrupting and destructive maelstrom of politics.

On the Structure and Functions of Insects.

BY HENRY GOADBY, M. D., F. L. S.

Written for the Michigan Farmer, and copyrighted by Dr. Henry Goadby of Detroit.

The Blattaria, Black Beetles, Black Cocks, or Cockroaches, as they are variously called in different localities, were included by Linnaeus in his *Hemipterous* order; they are not bugs, however, and have therefore been removed by later entomologists, and form an order by themselves, called *Dictyoptera*, by Latreille, Macleay, and others, and *Dictyoptera* by Burmeister, the Prussian entomologist, (from *diktos*, to make lace, and *peron* a wing).

These insects are not organized like the bugs, to feed on the juices of plants, but are, on the contrary, *omnivorous*—feeding indiscriminately on every kind of substance that comes in their way. The destruc-

tion committed by these creatures in the lower latitudes is incalculable, and many an energetic and enterprising traveller has had to deplore the penalty of making acquaintance with the Cockroaches of the country. Trunks filled with manuscripts of a valuable description, and that never could be replaced—the result frequently of years of labor, and accompanied by elaborate pictorial illustrations—have been stealthily entered by these pests, and the contents entirely consumed! Those persons who travel without the accompaniment of a sketch and note book are equally laid under contribution. An extra pair of boots concealed in a closet offers to these marauders a tempting meal, while shirts, linen drawers, cravats, pocket handkerchiefs, and ladies' dresses disappear by wholesale!

The *Blatta gigantea*, an insect nearly as large as a sparrow is fearfully destructive; it is found in Asia, Africa, and South America, and not only consumes the dead and dying, but attacks persons in their sleep.* Happily in this country and in Europe, the depredations of these animals are usually restricted to the larder, the bread basket and the sugar jar.

In the United States there appear to be two species that are indigenous—one, minute in size, and the other, the *Blatta americana*, measures about an inch and a quarter in length, and both sexes are winged. In addition to these, is an imported species, which came originally from the east, and is known as *Blatta orientalis*. This species is intermediate in size—about one inch long—the males only possess wings, and the females are so dark in color as to be called popularly, *Black Beetles*. Not a ship crosses the

Atlantic from the European shores without an abundant freightage of this species, which appears to be destined, at no very distant time, to annihilate the other two.

Already, as we have reason to know, *B. americana* has become remarkably scarce, and the probability is that in a few more years it will entirely disappear. Throughout our wanderings in the United States and the British Provinces, which have been extensive, we invariably find—not the *American*, but the *Oriental* Cockroach! The only city in which we have found the former, was (for a brief period) in Philadelphia. We remember that some twenty years ago, a colony of the American species existed at a baker's shop in the borough of Southwark, London, England, and thither we used to go in quest of them, at our last visit we found they had all been eaten by the formidable eastern cannibals, who, having vanquished them, had taken possession of their territory.

This species not only fights and eats other species, but, food failing, they consume each other, by which means their numbers are kept in check to some extent.

Of all the countless insects dissected by our hand through a long series of years, none are so remarkably beautiful as a Cockroach! The display of its internal organs is truly magnificent, whilst the external structure (skeleton) in the American species is superior, in beauty of color and texture, to most insects. We figure the skeleton of this insect.

It will be seen by reference to figure 21 that the oral apparatus is well developed:

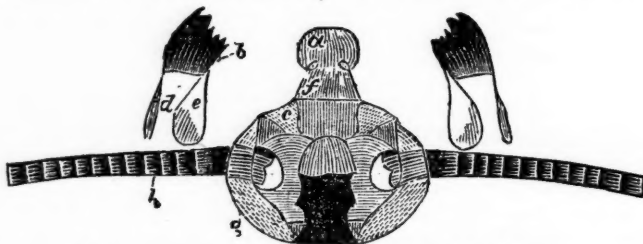


Fig. 21. Upper portion of the head and upper jaws of the Cockroach.

a, shows the upper lip.

b, the upper jaws, removed by dissection from c, the articulating surface.

The muscles of the jaws of insects are two—a *flexor*, or adductor, and *extensor*, or abductor. The function of the extensor is by its contraction to throw out the jaw—in other words, to open the mouth. In this action there is no resistance to be encountered, nor weight, beyond that of the organ to be moved; its size, therefore, is usually inconsiderable. On the contrary, the flexor muscle, has to close the mouth with firmness and decision; to break down and overcome hard resisting substances, its power therefore is considerable, and bulk great:

these facts will be best understood by reference to the figure:

d, the extensor or abductor muscle;

e, the flexor or adductor muscle;

f, clypeus;

g, compound eye;

h, antennæ.

The bone at the base of the skull may fairly be called *occipital*, and is shown in figure 22. We see here a large hole or foramen, which corresponds to a like aperture in the human occiput, and known as the *occipital foramen*: both transmit the spinal cord to a junction with the brain, but in insects the

* Dewey's Insects.

alimentary canal also passes through this aperture to the mouth: the terminations of this bone contribute with *c* to form the articulation of the jaw. A curiously shaped bone, with widely expanded terminations, is jointed to the occipital bone; although represented flat in the figure (as in the preparation), in nature it inclines upwards at an angle of 45° . The terminal portions articulate with the internal part of figure 21, near the junction of the jaws, and contribute to give the rounded form to the skull. In the centre of this bone is also a foramen, and through it the nerves are distributed to supply the upper and under lips, and the upper and under jaws.

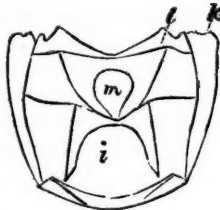


Fig. 22.



Fig. 23.

- i*, the occipital foramen;
k, articulating surface at junction of the jaws.
l, articulating surface to interior of skull, to give the rounded form to it;
m, internal foramen, through which nerves pass to upper and under lips and jaws.

In the Dictyopterous and some other insects, the tongue is remarkably well developed, and really

formed upon the type of the higher animals. Hereafter, when discussing the nutritive function in insects, a much larger figure will be given, and its glandular and minute structure will be explained. One point of resemblance between the tongue of a cockroach and that of a man is distinctly visible in the slightly magnified figure we have given, viz. its bones.

In the higher animals, the articulations of this organ are formed by the bones called *os hyoides*, and similar structures may be seen in fig. 23.

n, the *os hyoides*.

The under lip and all the accessory organs attain their highest development in the cockroaches; thus in fig. 24,

- n*, represents the lower lip, consisting of four lobes;
o, the labial palpi (feelers of lower lip);
p, the mentum, or chin;
q, the gula or throat;
r, maxilla, or lower jaw;
s, galea, or hood or helmet to the lower jaw;
t, maxillary palpi (feelers of lower jaw);

The lower jaws of insects consist, in several of the orders, of four distinct bones; the form of these are subject to great variety, although if carefully sought after they may always be found. They are firstly the *cardo*, or hinge; secondly, the *stipes*, or stalk; thirdly, the *squama*, or scale; and lastly the *mando*, or maxillary lobe. In the coleopterous and other orders, it frequently happens that the maxillae possess two pairs of jointed feelers, the second smaller

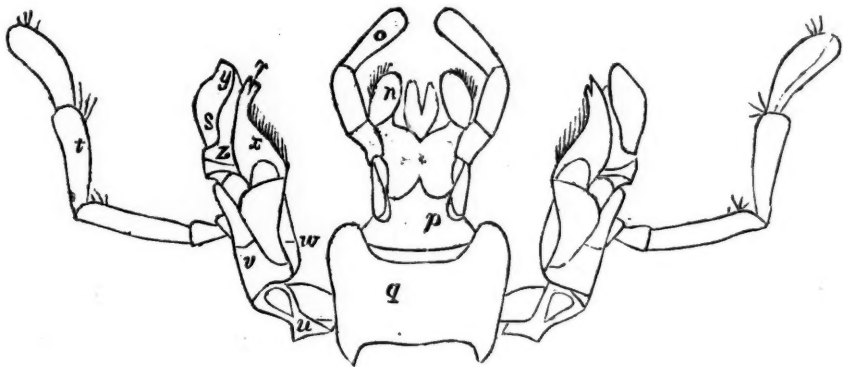


Fig. 24. Under lip, under jaws, and their feelers, of the American Cockroach.

pair being known as the *internal maxillary palpi* (see fig. 3, *h*); in the Dictyoptera and Orthoptera (leathery-winged insects, Crickets, Grasshoppers, &c.) the internal palpus is modified into the form of a hood or helmet at its upper portion, and called the *galea* (fig. 24, *s*). This organ possesses two joints, viz. a *basal* and *apical* joint.

- u*, the *cardo*, or hinge;
v, the *stipes*, or stalk;
w, the *squama*, or scale;
y, apical lobe of galea;
x, maxillary lobe;
z, its basal lobe.

The hinge bone is always placed at right angles, and forms the chief articulation of the lower jaw with the bones of the throat; to this bone succeeds the *stalk*, which ascends upwards to the base of the maxillary palpus; the *scale* lies at all times on the *inside* of the stalk, and is usually a small bone; lastly the maxillary lobe is the large fleshy lower portion of the jaw itself, which occupies its summit: this portion is usually covered with stiff hairs or bristles.

The head is connected to the chest by means of

the neck, and this also consists of an upper and lower portion. The former is shown in fig 25, and the lat-



Fig. 25. Upper neck.

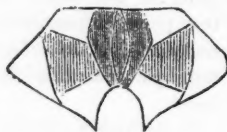


Fig. 26. Under neck.

ter at fig. 26. Both these structures are remarkable (in this insect) for their extreme translucency, composed chiefly of a very delicate membrane, sparsely supported by corneous plates.

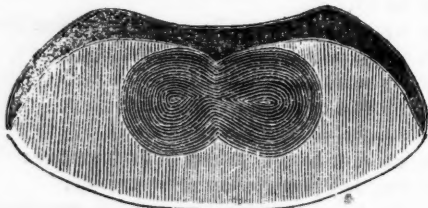


Fig. 27. The Pronotum of the Cockroach.

The pronotum is a largely developed and beautiful bone, fig. 27, singularly transparent, and extending in this species to the base of the skull—entirely concealing the neck—partly covering the next division of the chest, and overlapping at the sides.

(To be continued)

Hints to Farmers on Rotation and Farm Accounts.

MR. EDITOR :—In a former number of the *Farmer* I gave my views of the propriety of farmers keeping a farm book. There is not a reading farmer in the country who thinks he has attained perfection in all points. With such there is consequently much improvement to make, and the most practical and essential should be undertaken first.

In order to assist in this matter the following hints are given:

1. *On Rotation*.—Let the farm be suitably divided into lots, and reduced to a regular rotation in crops. Many spend much time and thought in determining what they should sow on this or plant in that field, and perhaps they change their minds half a dozen times in a month, and after all get their succession of crops into confusion. For this climate and soil the following rotation with suitable variations may be adopted: 1. Take a field that has lain two or more years to clover, plaster heavy early in the spring, keep all stock off until the 10th or middle of June, then plow all under, at least 9 inches deep, and cultivate thoroughly before sowing to wheat. This we consider a better chance for wheat than a summer fallow; besides the land is improved. 2. A crop of corn, with manure if you have it. 3. Oats, and seed down. Good wheat land should be seeded to clover and timothy, eight quarts of clover

and four of clean timothy seed to the acre; sowing the clover one way and the timothy the other. In this way there will be no vacant spots for sorrel or other noxious weeds.

2. *Building*.—No farmer can carry on business satisfactorily who is not well supplied with farm buildings; yet some buildings are more important than others. Shelter for animals and for tools are indispensable.

3. *Economy*.—Some men are exceedingly sharp in a bargain with their neighbors, but allow a loss equal to ten times as much as they make, by their sharpness, by the exhaustion of soil under great crops of mullens, thistles, burdocks, yellow-dock, elders, Johnswort, pigweeds, fox-tails, redroot, chess, &c.

4. *Income and expenses of the farm*.—The farmer who would by figures know what part of farming business is the most profitable, must keep a farm book, keeping accurate accounts not only of his purchases and sales but with every crop, what it cost and what it brings him.

5. *On Book-keeping*.—On the first of January of each year an inventory should be taken of all property both personal and real estate. Debt and credit should be kept with the farm. The farm should be credited with everything sold off from it, and charged with everything brought on to it. In this way we may ascertain our whereabouts.

We should also keep debt and credit with each field. This will show us what crops are the most profitable. Below we will give our notes on three fields; viz., corn, meadow and wheat:

Field No. 1, 10 acres to corn, 1856.

DR.	
May 9, To one day plowing for corn, at 16s.	\$2 00
" 10, 12, 13, To three days plowing, a 16s.	6 00
" 17, To one day culivating, at 16s.	2 00
" 19, To two days making for corn, at 12s.	3 00
" 22, To three days planting, at 8s.	3 00
" 22, To 1½ bushels seed corn, at 8s.	1 50
Jun. 12, To 4½ days cultivating corn, at 12s.	6 50
July 10, To five days culivating corn, at 12s.	7 50
Oct. 30, To sixteen days husking and securing, at 8s.	16 00
Interest on land fifty dollars per acre, at 7 per cent.	35 00

Total expense of crop,\$82 50

CR.
By 600 bushels ears corn, at 25 cts per bushel.\$150 00
By stalks for fodder.10 00

Total,\$160 00
Expense, as above.82 50

Net profit on Field No. 1.\$77 50

Field No. 4, 14 acres of meadow, 1856.

This meadow was sown with the large clover and timothy mixed. Second crop of hay.

DR.	
July, 15, To ten days mowing, at 10s.	\$12 50
" 18 To 1½ days raking with horse rake, a 12s.	2 25
" 20, To two days, hands and team securing, at 24s.	6 00
Interest on 14 acres of land at fifty dollars, at 7 per cent.	43 00

Total expense of crop,\$63 75

CR.
By 21 tons of hay worth eight dollars per ton.\$168 00
Expense as above.63 75

Net profit of Field No. 4.\$105 75

Field No. 10, 10 acres to wheat, 1855 and 1856.

DR.	
June 10, 1855 To one day plowing for wheat, at 16s.	\$2 00
" 11, 13, 14, 16, 17, To five days plowing, at 16s.	10 00
July 1, To cultivating, one day, at 16s.	2 00
August 15, To five days cross plowing, at 16s.	10 00

Sept. 20, To 18 bushels of seed wheat, at 14s per bu.....	\$1 50
" 20, To sowing seed wheat 1 day, at 8s.....	1 00
" 23, To cultivating in seed three days, at 16s.....	6 00
July 15, 1856, To cutting and securing 10 acres wheat.....	15 00
August 25, To threshing 210 bushels of wheat.....	21 00
Nov. 15, To marketing 210 bushels of wheat.....	8 40
Interest on land at fifty dollars per acre, at 7 per cent.....	35 00

Total expense of crop.....	\$141 90
By 210 bushels of wheat, at 10s per bu.....	\$262 50
By straw for fodder.....	10 00
Total.....	\$272 50
Expense, as above.....	141 90

Net profit on Field No. 10.....\$130 60

Our figures show that the wheat crop for the last year has been the most remunerative crop. Though I believe this is not generally the case. I am aware that the past year has been very unfavorable for farmers, on account of the protracted drouth and untimely frost. Yet in looking over our farm book we find we are prepared to report progress.

Sales of the products of the farm for 1856 are.....	\$1565 00
Expenses including for labor, family, &c.,.....	793 50

Profits from the products of the farm.....	\$771 50
In comparing our inventory of 1856 with that of 1857, we find an advance of.....	\$1083 00
Add the profits of the farm.....	771 50

Showing a gain of.....\$1854 50

In looking over the past we feel that we have cause to be thankful to our great Benefactor for his benefits conferred upon us as agriculturists.

Yours truly,
Quincy, Mich.

J. CLIZBE.

Potato Experiment—Large vs. small seed.

R. F. JOHNSTONE—Sir: It is a matter of some importance to the farmer to ascertain the true policy of using either large or small potatoes for seed. I acknowledge to considerable prejudice against the latter practice. For however well small seed may do for one season, I should incline to the belief that by continuing its use for years the crop would eventually deteriorate. It is by selecting the best stock to breed from, and giving them proper care and attention, that we improve our animals. So in the selection of the best grains, and necessary care in cultivation of the same, we improve each variety, and may we not safely calculate on a like result from a proper selection of seed potatoes with reference to size and form, persevered in from year to year. The use of small seed would be quite a saving, provided the product was equal in quality and quantity to that produced from large seed, from the fact that a given quantity of small potatoes will plant a larger amount of ground than the same quantity of larger potatoes, besides being of less value in market. In seasons when the crop is shorter than usual, it may be policy to use small seed, but even in that instance I should prefer planting some of medium size, and from the product select my seed for the following year.

I copy from my diary a somewhat imperfect experiment made in 1855. I intended to have continued the experiment last season, and to have weighed the

produce of each planting; but illness prevented my giving it personal attention in the proper season.

I planted six rows as follows:

No. 1, with small potatoes, a little larger than a hickory-nut, cut in two—one piece in a hill.

No. 2, the same, with two pieces in a hill.

No. 3, same sized potato uncut, one in a hill.

No. 4, same size, uncut, two in a hill.

No. 5, with large potatoes cut—three eyes to each piece—one piece in a hill.

No. 6, same as No. 5, with two pieces in a hill.

On digging the potatoes, I counted the number of hills required to make a bushel, and the number of potatoes suitable for family use contained in a bushel.

The small potatoes were not taken into account, as I am in the habit of picking those by themselves to feed my stock. The rows were three feet apart, and the hills two feet in the row.

No. 1, 40 hills gave one bushel, which had 280 potatoes.	
No. 2, 30 hills do do 250 "	
No. 3, 30 hills do do 250 "	
No. 4, 26 hills do do 320 "	
No. 5, 31 hills do do 250 "	
No. 6, 29 hills do do 235 "	

There seemed to be somewhat less vitality to the small potatoes; the vines were more slender, and No. 1 had a few hills missing. No. 4 had the largest amount of small potatoes, unmeasured, and those measured were more irregular in form. Nos. 5 & 6 had very few small potatoes.

The trial was made for my own satisfaction, and without any intention of making it public. You are at liberty to make such use of it as you think proper.

R. D. PALMER.

Brooklyn, Jackson Co. Mich. March, 1857.

[The above experiment of Mr. Palmer's we consider very valuable to potato growers, as giving facts and figures on the economy of planting large and small seeds, which make it plain that to plant large potatoes for seed is the truest economy. Many have contended that they have been able to as grow good crops and to obtain as large a yield from planting small potatoes for seed as when they used large full sized. That this has been the case in many instances, we believe no practical farmer will doubt, but the general rule as well as the best practice, and correct theory are all in favor of using large seed potatoes. In the above experiment, it may be noted that four of the trials were made with small potatoes,—tried cut with a single piece in a hill, with two of the pieces, with one whole potato, and with two whole potatoes in each hill. The result shows, that it took more hills to make a bushel, and that also it took a larger number of potatoes to make the bushel, than it did of the produce of the large potatoes. Take an acre planted as Mr. Palmer did his, and there would be 7260 hills on it, and planted according to the plan noted above, we should have the following results: No. 1. would give 181 bushels per acre, potatoes not of a large size.

No. 2. and 3. would give 242 bushels, potatoes of a larger size.

No. 4. would give 280 bushels, decidedly small.

No. 5. would give 234 bushels of potatoes of same size as were produced by Nos. 2 and 3.

No. 6. would give 260 bushels of potatoes of the largest size grown in the lot.

The profit and loss of the several kinds of planting are easily summed up:

No. 1. would take about five bushels of seed, worth 25 cents each, or \$1.25. It produced 180 bushels worth 50 cents, or \$90.00.

No. 2. cost for seed \$2.50, and returned 242 bushels or \$121.00.

No. 3. cost for seed \$2.50, and gave back the same result.

No. 4. cost per seed \$5.00, and gave back 280 bushels worth but 40 cents, \$112.00.

No. 5. cost for seed, 8 bushels at 50 cents, or \$4.00 and returned, 234 bushels, worth \$117.00.

No. 6. cost for seed 16 bushels at 50 cents, or \$8.00, and gave back 260 bushels, worth 60 cents per bushel, or a total of \$156.00.

It will be seen therefore that if we would make the most of the land put down to grow potatoes, the true economy is to select the best potatoes for seed, as the return will be more apt to be the most profitable. We have in the above estimate, called the smallest potatoes worth 40 cents, the medium sized 50, and the best marketable potatoes 60. We know of no housekeeper who would not readily pay the difference. It will be seen that the farmer who practices the "penny wise" policy of planting small potatoes is sure to reap his harvest in the "pound foolish" measure.—Ed.]

Sweet Sorghum.

EDITOR OF FARMER:—My attention being attracted to this exotic, whose introduction promises so favorably to this latitude, I have thought to digest a synoptical statement of the principal facts developed in its history as derived from experience in its cultivation in France and the United States.

The Impheye, Sorghum saccharatum, Sorgho Sucre, are synonymous with the Chinese Sugar cane, the seed of which, when first imported into France from the north of China, was provisionally named *Holcus saccharatus*; all of which are different terms for the Sweet Sorghum.

There are enumerated some thirty varieties of the Sorghum, among which are the Chocolate Corn (or Sorghum vulgare) the Egyptian Corn, the Broom Corn, the Sorghum saccharatum, &c., &c. All being different varieties of the Sorghum family. The term *Sweet Sorghum* is in English the proper descriptive term, as is *Sorgho Sucre* the proper descriptive term in French. It is entirely distinct from the maize or Indian Corn family, and will not intermix

under any circumstances; but being of the same family with Broom Corn, Chocolate Corn, &c., it will readily hybridize and thus deteriorate.

The seed is of a purplish, shining jet black, villous, shaggy, and in appearance resembles Chocolate Corn, from which it can not be easily distinguished.

The plant grows from eight to sixteen feet high, with from 5 to 7 suckers from each stalk as large as the original. The seed should be planted and cultivated the same as Indian Corn, with the exception in planting, that it should not be covered with over one half inch of earth, and not over three plump seeds in a hill, and, if in drills not over 18 inches apart in the drill, with the rows or drills four feet apart. It is found from the result of M. Hardy's experiments, that two seeds in a hill will be found sufficient. It is recommended by some, to plant Indian Corn in the same hill; as the Sorghum, when it first vegetates, so much resembles grass, as not readily to be distinguished. After hoeing, the Indian Corn plant is pulled out.

The seed is not ripe till after it has turned a dark purplish black hue, when the panicles of seed are cut off one foot or 18 inches below them, and hung up in bunches to dry. Two crops of fodder may be procured in a season. The first crop should be cut just before the panicles of seed begin to appear.

The economical uses of the plant are found to be derived from the following products: viz, sugar and syrup which is found identical with that of the Cane; alcohol in abundance and a fermented liquor, analogous to cider, the above being produced from the juice of the stalks; a dyeing material from the pellicles or chaff coming from the seed, and coloring different tints of red and found useful in dyeing silk; forage for stock superior to any other; wax from the surface of the stalks; and seed for feeding domestic animals.

Planted the 15th of May, the centre panicle will ripen from the 1st to the 15th of September, when the stalks are fit for sugar making. It had ripened sufficiently by the 28th of August in Michigan in 1856, when a premature frost came, to make a first rate syrup. It yields from twenty-five to fifty bushels of seed to the acre according to circumstances of soil and season, weighing thirty-six pounds to the bushel. The yield of fodder, is from 1200 to 2500 pounds per acre. According to M. Hardy, the yield of wax per hectare is about 28 kilogrammes, 400 grammes, or at the rate of about ninety-six pounds per acre. Mr. Richard Peters makes the yield of Sorghum juice per acre, of a very inferior crop, at about 2000 gallons, yielding one gallon of good syrup for every 4½ gallons of juice or about 460 gallons of syrup per acre. He found the canes to yield a little less than one gill of juice to the cane.

Comparing the richness of common maple sap, with Sorghum juice, it is estimated that two barrels

of maple sap, on an average will produce 12 pounds of sugar, equivalent to a about a gallon of rich molasses syrup. Thus the Sorghum is nearly fifteen times sweeter than ordinary maple sap.

Sugar making will not be extensively practiced until more experience is had. Until suitable mills are brought into use, some imperfect contrivances may be used to press the juice from the canes which contain about seventy per cent. The old fashioned nut cider mill, well keyed up, would answer an imperfect purpose to press out the juice from the canes; or a cheaply constructed mill might be made, by turning two rollers out of hard wood 18 inches in diameter, set vertically in a frame well fixed to the ground, similar to the cider mill, and turned by a sweep as a lever, with a half hoghead set underneath to catch the juice. But a more perfect mill would consist of three iron rollers 18 inches in diameter, placed horizontally and moved by horse power.

All the machinery for extracting the juice and for boiling should be in readiness before the canes are cut, as the success in syrup or sugar making depends upon the rapidity of the operation. You may commence operations as soon as the centre panicle of seed begins to ripen, or has become ripe, which will be from the 1st to the 15th of September. From the experiments of M. Hardy, the canes may be allowed to stand, after the panicles of seed are cut off, and the canes may be cut for use after frost and until freezing weather has commenced, without diminishing the saccharine.

First strip the leaves for fodder. Cut off the panicles of seed, and then cut the canes off near the ground and bring to the mill. When the canes are ready, build the fires under the boilers which should be two for syrup and three for sugar, though it will answer the purpose imperfectly. "The juice should be placed in the boilers *immediately* on being pressed out, and then boiled slowly until the green scum ceases to rise, then stir in a teaspoonfull of air slacked lime to five gallons of juice; continue skimming and boiling until the syrup thickens, and hangs down in flakes on the rim of the dipper." The clearest syrup may be made, by simply boiling and skimming without lime or other clarifiers, but the lime is necessary to neutralize the acid in the juice, though it is preferred by some without. The quicker the boiling is performed after clarifying, the more and better syrup or sugar. Skimmed milk or the white of eggs will do for clarifying. The juice should be twice strained, or filtered, and when the thermometer indicates 220 deg., it should be taken out, filtered and placed in a smaller kettle hung upon a crane over the fire, so that it may be removed from the fire at the instant. It should then boil so gradually as not to burn until the thermometer rises to 240 deg., when the kettle should be instantly removed from the fire to cool; when half cooled off, turn into conical sugar molds, stopped at

the bottom, and placed on the drip pot. The next day the plug may be removed, to drip, being kept in a warm place. Those who have not the requisite instruments will be governed by their own judgments after and in a similar manner to making maple sugar and syrup. The manufacture of syrup being involved in sugar making, requires no further notice.

In conclusion it may be said, that the present knowledge on the subject is very imperfect at best, but the experience of the next few years will undoubtedly make sugar making from the Sorghum practicable to all.

JOHN T. BLOIS.

On Raising Calves.

EDITOR MICHIGAN FARMER:—I noticed in the February number of your paper, Mr. Harris' plan for feeding calves, which is certainly a great improvement. With his plan of trough and my plan of feeding, there would be no difficulty in making good calves. My plan is, when the calf comes, to let it suck the dam until the milk gets fit for use. In this way the calf will grow more in six days, than it would in twelve if taken away at the first; and another advantage is, that the calf gets such a good appetite that it more readily learns to drink. When taken from the cow, I give them new milk, with a table spoonful of pudding made of Indian meal, for about five days. I then give them half new and half skimmed milk for a few days more; after that I make it all skimmed milk, with an increase of pudding, always warming the milk to about the temperature of new milk. If the pudding is not fine, I mash it with my hand. When the weather comes warm, it is no matter if the milk is sour. I continue feeding until the calf is about four or five months old. Then it is fair time, and when I get them to the fair the only thing I am ashamed of is, that folks will not believe they were raised by hand!

Now, I will warrant good calves to any one who will follow the above plan, provided, first, that they have a little sprinkling of blood in their calves; for my opinion is, that you cannot improve our native stock by feeding. They have been bred in-and-in so much, and from the poorer classes, that the vitality is all gone. My calves are from a cross of Devon and Durham on native.

JOHN RICHARD.

Raisin, Mich, Apri', 1857.

Plan of a barn, sheds and yard for a moderate sized farm.

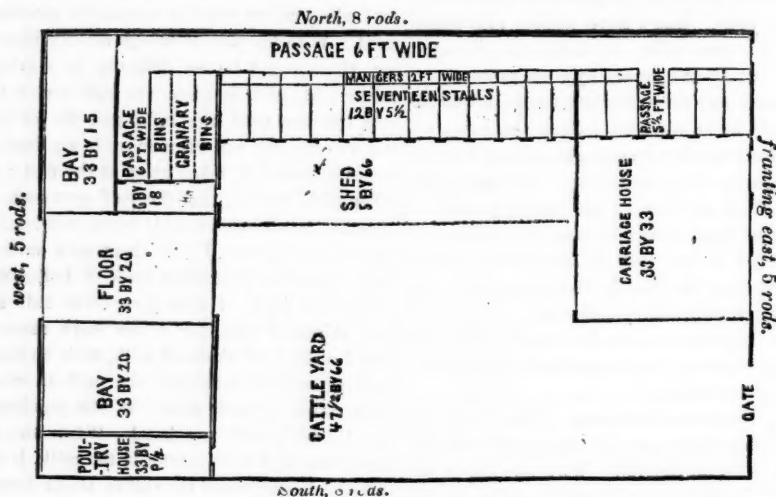
EDITOR MICHIGAN FARMER:—Dear Sir: Most farmers among us commence with but small means, and are obliged to put up their farm buildings a little at a time. The accompanying sketch is offered, as adapted to the necessities of such persons; since it is susceptible of being built in four or five different compartments, while the whole is supposed to be susceptible of adaptation, (by expansion if necessary,) to the wants of more extensive farmers.

The structure is supposed to front toward the east, upon a lane, through which communication is had with the various portions of the farm. Entering it from the lane, through a door at the north east corner; we find ourselves in a passage, six feet wide, upon which front the stalls provided for the reception of the whole stock of the place, both cattle and horses, which thus pass under the eye of the farmer every time he has occasion to visit the barn. Hay, for the supply of these stables, is stored in the loft above them, and above the carriage houses, (35 by 66, and 33 by 53,) and is thrown down through proper openings, into this passage. Passing along a distance of 117 feet, we observe a door opening into the granary, (12 by 21 feet,) for the convenience

of feeding grain to the stock in stalls. At the end of the passage a doorway opens into a bay, 15 by 33 feet, through which straw may conveniently be carried into the passage, for littering the stalls.

Turning to the left, around the corner of the granary, through a passage 27 feet long, we open a door upon the main floor of the barn, 20 by 33 feet, with an L, 6 by 18 feet, extending under the swing beam in front of said door and the granary.

On the opposite side of the main floor, is a large bay for the storage of grain, hay, &c. Still beyond this, is a poultry house, 9½ by 33. If a spot be chosen for the structure, having a slope in this direction, it is proposed to lay a tight floor under the bay, and poultry houses, and, by excavating, to



provide a half-underground room 29½ by 33 feet, for sheep, opening, at the south, into a separate yard for feeding.

The main floor is accessible by means of opposite, double doors; giving opportunity for teams loaded with grain, to pass completely through.

Passing out through the small door at the north east corner of the main floor, we find ourselves under the shed, in rear of the stalls, (15 by 66 feet,) which furnishes shelter for stock kept in the yard, upon which it opens, and protects the manure from the stalls, against the wasting effect of storms. The yard is accessible from the lane, through a gate near its southeast corner.

Passing along the shed, in rear of the stalls, we enter the carriage house, 33 by 33 feet, through one of three doors opening into the yard. Along the north side of this room, are five stalls for horses, which are closed in rear by doors; also, a passage 5½ feet wide, through which access is had to the passage in front of the stalls. The floor, over the carriage room, is made self supporting by means of king posts, or bolts, and braces, above; thus obviating

the necessity of posts below, which would be much in the way. Passing to the front of the carriage room, we find also three doors, opening upon the lane, similar to those in the rear; thus furnishing room for three carriages to pass in, and stand abreast; and also, if desirable, accommodating the carts, sleighs, &c, which are so commonly left exposed to the weather.

A larger amount of stock, requiring more stalls, would also require more yard room. It is therefore obvious, that this object may be conveniently effected by placing the barn proper, further to the west; thus leaving room for an increased number of stalls. Such as believe in bleaching manure before using, can reduce the cost by leaving off the shed adjoining the stalls. To accommodate the horses kept adjoining the carriage room, a grain bin may be substituted for one of the stalls.

The cost of building varies so much in different localities, and with different styles of building, that estimates are supposed to be of doubtful utility; but if thought desirable they will be furnished hereafter.

[Let us have them by all means.—Ed.] T.

F. E. Eldred's Horse Stock—Lime on Clover Hay.

A few days ago, we paid a visit to the farm of F. E. Eldred, Esq., of Detroit to take a look at his horse stock, and especially with a desire to see a yearling colt of the well known Jackson horse, which Mr. Eldred lost by death last year. Mr. Gregory who has charge of the stock, and is one of the most careful and best trainers of horses there is in the State, showed us Hambletonian, whose pedigree may be found amongst our advertizing columns. He is of a beautiful dark mahogany bay, and is very handsome, in style surpassing most horses, has a free action, with a lofty crest, and possesses speed sufficient to satisfy any one except a sporting man. This horse is of an excellent disposition, mild in temper, and easily handled; he has a fine bold eye and front, and is calculated to get superb carriage horses. We have already, spoken of his colts, most of which are larger than he is himself. Eight hundred dollars were offered and refused for a five year old colt of his in Chicago a few weeks ago. He is unquestionably a good animal, with excellent blood in his veins, though not what might be called a first rate flyer. Wild Dayrell, a colt from Kemble Jackson, is a two year old of large size, and showing decided marks of the Jackson stock. He promises well, but just now appears lank, and looks green and full as young as he is; with two years more upon his age, he will be a magnificent animal. He has a fine small head, well set and bloodlike ears, an eye quiet, and rather dull, a thin neck, not yet filled out, a capital shoulder, a back neither long nor short, powerful quarters, and good flat short arms, with the hind legs white almost up to the hock. He comes of a favorite strain of blood, and will prove a serviceable and most desirable animal to raise stock from. A yearling colt of Jackson's, out of a favorite and well blooded mare, is a very fine animal, with capital action,—a long square, easy, natural trot,—that gives promise of a full grown horse that will be remarkable for speed. Mr. Eldred owns several mares that are remarkable for blood and speed, and which are now in foal to favorite horses; two of these mares are choice animals, one having gone her mile in 2.29, and the other, a blood mare, showing in her small head and clean fine limbs, every mark of a first rate thoroughbred. Among the stock on the farm were some fine milk cattle, a pair of really good, well bred Suffolk swine. The stables and barn are fitted up with great care, and have throughout earthen floors, prepared by raising them above the general surface, and using spent tanbark, with the earth in preparing the compost for the floor which is made hard by pounding. The horses have on this floor plenty of good wheat straw. Mr. Gregory prefers these floors, as being more healthy for the horses feet, and less liable to promote diseases of an inflammatory nature.

Mr. Gregory informed us, that he had derived great benefit from the recommendation which he had read in the *Farmer*, to use lime with salt in the curing of clover hay. Last year before his clover was cut on a farm on Grosse Point Mr. Gregory read the receipt then published, and immediately determined to try it, and accordingly took up to the farm a barrel of lime, and some few bushels of salt. His clover was cut pretty green, and was taken into the stack before the sun had a chance at it. His neighbors laughed, at him and prophesied that he was preparing to have a good supply of manure for spring use. But this did not deter him. Knowing from his own experience, that lime was useful in checking and curing a cough in horses, and knowing also that clover hay was liable to be full of dust, dry, and as usually cured, of little value, he reasoned that lime might possibly do some good by counteracting the effect of clover hay. In putting his clover hay in stack therefore,—which he did when it was quite green, and only partially dried,—he used two quarts of salt, and about four quarts of lime to every full two horse load of the hay, as it was put down.—The result has been, that instead of having a "pile of manure," he has had for the use of his stock of all kinds plenty of a first rate quality of clover hay, and as the hired man observed who drew it into the stable this spring, "a sort such as he had never seen the beat of." The leaves and stalks were all preserved, and the young colts devoured it as greedily as though it had been the best spring grass of the season. The reason of this is very obvious, the clover when put in the stack, if left to itself would heat, and parch up as though it had been exposed to the sun. There is just enough lime put in it to absorb the moisture and prevent fermentation. The action of the lime therefore removes the moisture, and at the same time cures and leaves the clover with all its vegetable juices in the hay, and not evaporated as they are when the plant is exposed to dry in the sun. The hay is therefore more perfect, as satisfying as an article of food, and thaltai ds in rendering it acceptable to the palate of the animals fed upon it.

Rotation of Crops for Prairie Lands.

MR. EDITOR:—In your criticism on my article, published in the last number of the *Farmer*, in reference to my rotation of crops, you say, "corn oats and wheat twice, to only one year of clover, would be very exhausting on any ordinary soil, &c., &c., which I freely admit; but sir, you have not given my rotation a careful examination, for such is not the fact. I have great confidence in my system of rotation, particularly on our prairie land, not only as to the profits of the farm, but to increase the fertility of the soil, therefore, that I may be clearly understood, by those most, interested I will give my process of cultivation, as well as the rotation of crops.

In the first place, I hold it to be good policy to have land well seeded to clover, at all times, if not wanted for grain crops. I will commence with field No. 1.

First year—After having hauled out all the barnyard manure, which had accumulated for the last year, upon a clover sod, well filled with seed, I put on a strong team and plow deeply, harrow well, mark out 4 feet each way, and plant to corn. Harrow and cultivate well the growing crop, and leave the field with a level surface. Cut up and shock, or harvest the corn upon the hill as may seem most advantageous at the time, in reference to the quantity of stock to be fed through the winter.

Second year—Clean off the corn stalks and plow shallow for oats or barley, or both, as may appear advisable. Sow early, harrow well, and soon after the oats are harvested, plow as deeply as for corn, and bring up the old clover sod, with the seed, to the surface. Harrow lengthwise of the furrow, then diagonally (not crosswise) in order to pulverize the soil more evenly. Sow to wheat and harrow twice, if not thrice, lengthwise of the furrow, the first time with a heavy coarse harrow, and lastly, finish with a fine harrow, and the seed will be better covered than by cross harrowing. The ground will then have been seeded to clover as well as wheat.

Third year—A wheat crop is taken off, and have good fall pasture.

Fourth year—A crop of clover, which is pastured moderately; leaving plenty of heads to ripen for seed. About the first of July plow down the clover, deeply, and prepare the ground for wheat, by harrowing and cultivating. Sow wheat and harrow as before.

Fifth year—Harvest the crop of wheat and plow the stubble for wheat again, as deeply as before, in order to bring the cloverseed upon the surface. Sow with the same process as before. The wheat and clover will again vegetate together, and the

Sixth year—Will be a wheat crop to harvest with clover pasture in the fall.

Seventh year—A crop of clover to mow for hay, and the second crop for seed, which should be gathered by a picker, drawn by one horse, and then seed enough will be left on the ground to seed it well, which will vegetate again after the corn, oats and wheat crop, leaving the clover seed undisturbed for another year.

By this process my land is always seeded to clover, without sowing any seed, and is also improving with every rotation of crops.

I, perhaps, may give my views as to the quantity of stock that may be kept on 160 acres according to this system of farming, in a future number of your paper.

A. Y. MOORE.

[We are still of the same opinion, that only the very best of soils would sustain such a system of

cropping for a series of rotations. There is a little indefiniteness in our language when speaking last month of the grain crops taken off by Mr. Moore's rotation; what we wished to be understood as saying, was that a crop of oats, a crop of corn, and two crops of wheat to one of clover is almost too much for any soil except the best quality; but to this it will be seen there is to be added a crop of clover seed. The rotation as it now stands is corn, oats, wheat, clover for pasture, and to be plowed in, wheat, wheat, clover to mow and for seed, corn, oats, wheat, clover for pasture wheat, wheat, clover,—14 years; showing that two crops of oats, two of corn, six crops of wheat, two crops of clover hay, and two crops of clover seed, have all been taken off, while in return the field has had two coats of manure, it has been two years in pasture, and has had a clover sod turned under 4 times in fourteen years. We still incline to think twenty one years of such a rotation would tell most powerfully on even the rich and almost inexhaustible soil of the beautiful prairie on which Mr. Moore's farm is located. We admit, however, that the system is one which would not be apt to show ill effects for a long period, especially where the tillage was performed in a thorough manner, and we also know from observation, in many cases wheat and clover have been sown alternately for years in succession with no apparent ill effects, on many of the prairie lands of this State, except that you will occasionally hear a farmer exclaim that wheat "does not do as well as it used to," and "clover don't catch the same as it did some five or six years ago."—Ed.]

A 40 Acre Calculation.

S. M. G., of Buchanan says, "I think of buying a farm, but to do so will bring me in debt \$1000. There are now 40 acres improved, and an orchard of 125 bearing apple trees. Now can this land be made to pay off this debt in five years? and is the following plan a good one to carry out with this design? Let one half or 20 acres of the improved land be in wheat and clover alternately for the five years, and all the spare time to be devoted to clearing new land, what would be the result?"

The information in relation to the present condition of the land, and the crops heretofore taken off the farm referred to, is so scant, that we cannot pretend to give a reliable opinion, though we are inclined to favor the idea that the \$1000 could be raised from the land within the time specified. To pay the principal and interest, S. M. G. would have to realize 200 dollars every year, and calculating the interest at 7 per cent and that no part of the principal was paid until it had been earned, the principal and interest for the first year would be \$270, the second year \$256 the third year \$242, the fourth year \$228, the fifth year \$214, making altogether \$1210.

We suppose the 40 acres to be in the usual condition of such land: that is, lying in pasture, with a good sprinkling of stumps throughout. To break up ten acres of this as fallow during the coming season, and seed it with wheat and clover, would cost as follows:—

Plowing with a yoke of oxen, 1 acre per day, in June,.....	\$20 00
Cultivating the whole, three days, in August,.....	6 00
Praying for two days in August,.....	4 00
Seed at the rate of five pecks per acre of the best seed wheat	18 75
Sowing for two days, about the 10th or 15th of September,...	2 00
Harrowing for two days after sowing,.....	4 00
Clover seed at the rate of 12 pounds per acre sown in March	
2 bu., at \$1.....	14 00
Harvesting, thrashing and marketing at \$3 per acre.....	30 00

Cost of raising wheat, and seeding.....	\$98 75
Produce 18 bushels per acre at \$1.20 per bushel,.....	\$21 60

As it will not do to let the other ten acres remain unproductive, and a yoke of oxen must be kept to do the work, five acres should be put to corn, and the other five kept for hay or pasture, the five acres should be broken up immediately and planted. If well managed they will furnish feed for the oxen, and such young stock as may be growing on the place. But we would not advise the outlay of a dollar for live stock beyond the oxen and a couple of milk cows the first year. The wheat straw, and corn stalks and corn, will put that amount of stock over the winter of 1858.

The five acres of corn will cost as follows:—

Plowing in May, at \$2 00 per acre.....	\$10 00
Dragging, marking and planting, \$1 50 per acre.....	7 50
Cultivating and hoeing, \$1 50.....	7 50
After last cultivating sow about 3 pounds of turnip seed over the field.....	3 00
Pumpkin seed,.....	0 50
Cutting, harvesting and marketing.....	10 00
Cost of five acres of corn,.....	\$37 00
Produce 200 bushels of corn at 40 cents,.....	\$80 00
" 200 bushels of turnips at 15 cents.....	30 00
Pumpkins.....	10 00
	—120 00

We suppose the trees to be left without trimming or care for the last four or five years, and to be well provided with suckers, and possibly a good supply of caterpillar's nests. The trimming, washing, and work which the 125 trees ought to have, could not be done for less than \$10, and each tree may be estimated to average a barrel of apples, say 120 barrels of marketable fruit, which might bring from ten to twelve shillings per barrel, the price depending on the quality of the fruit, about which we have no information.

The whole marketable crops of the piece of land to be depended on to pay the principal and interest mentioned above, would therefore be as follows:—

Wheat crop marketed.....	\$216 00
Corn crop, marketed.....	80 00
Apple crop marketed.....	120 00
	\$396 00

The outlay supposing that S. M. G. has the oxen, and tools on hand, and valuing the whole work at its cash rates, would be

For the wheat crop.....	\$28 00
For the corn crop.....	37 00
For the apple crop.....	20 00
	\$155 00

But in return there must be deducted from this,

the value of the turnips, the pumpkins, the wheat straw the corn stalks, the unmarketable apples, and the use of five acres of pasture or hay, and which may be put down as follows:—

12 tons of wheat straw at \$3 per ton.....	\$36 00
7½ tons of corn stalks at \$4 per ton.....	30 00
5 acres of pasture at \$5 per acre.....	25 00
Turnips and pumpkins and corn.....	60 00
Unmarketable apples and corn used as feed for hogs, oxen, &c.,.....	20 00
	\$171 00

It will be seen therefore that with ordinary seasons, with ordinary crops, but with close management the forty acres would pay the interest and principal the first year, and also its own expenses, leaving a surplus of about \$150; but it must not be asked to support a family besides.

In the fall when the corn was off, we would sow the corn ground with winter rye, using at least two bushels of seed to the acre. This rye would come up early and would serve as pasture for the stock until the latter part of June, when it would be plowed up with the five acres of grass as a fallow for the next crop of wheat, and the second year the alternation of wheat and clover would commence. With the liberal use of plaster on the clover, taking care not to feed it too close in the fall, which has the effect of rendering the clover liable to be winter killed, we think S. M. G. might risk the purchase. Should bad management, unpropitious seasons, or some other calamity intervene, so as to cause the loss of one crop, he might get over it, but the loss of two crops would seriously affect his chances for payment, and in taking hold of the farm, he must calculate upon the probabilities both for and against his abilities to succeed in the enterprise.

The statement made by Mr. Gage in a former number, in reference to hair snakes, and the theory subsequently set forth by Dr. Schetterley, seem to have excited considerable interest. We have received several letters on the subject, and seen statements in other papers, all on Mr. Gage's side of the question, and confirming his opinion, that hair snakes are not horse hairs. In this number Mr. Gage speaks for himself in reply to Dr. Schetterley. Mr. Ashbell Beach, writing from Thornapple, Barry county, says, "The reason that those men differ, is, because they are writing on different subjects; one on the propagation of crickets, and the other on the philosophy of electrified hairs. Both may be right." He then gives an instance of having found hair snakes in a rain water barrel, which seem to have been in a more advanced stage of development than those mentioned by Mr. Gage. H. says, "they were five or six inches in length, of the size of a horse hair, and black, except the forward part, which was white, or light colored, and as large as a goose quill for an inch in length." By some accident they were destroyed before they had time to mature farther; but he inclines to the belief that they would have developed into crickets, as tadpoles do into frogs, or wigglers into mosquitoes; and also states that he has found hair snakes in cold spring water, and drawn them up from wells, and believes that they are real living creatures not yet matured.

Cultivating Marshes.

MR. EDITOR:—Having been much benefited by the experience of my brother farmers, received through the medium of your paper, and having had some experience of my own, I propose to give it, hoping others may be benefited in turn.

About fifteen years ago, I had a ditch two feet deep and three feet wide, cut around my marsh, except on the west side, which is bounded by a stream of water. The marsh was very wet and boggy; in a few years it settled down to a level with the bottom of the ditch. I then ditched it again with the same sized ditch as before. In cutting this last ditch I found clay about one foot below the surface of the marsh. My marsh then became hard and dry, excepting in freshets. The fine, foul meadow grass soon run out all other wild grasses, and it would yield over two tons per acre, but it would lodge or get down between the bogs before I could get it mowed, so that it was almost impossible to mow it.

At length I concluded I would plow my marsh and make it smooth. We fixed up a No. 7 break up plow, the same as they do for breaking up-land with, excepting we had steel put on the coulter, or cutter, as high up as the beam, so that the bogs would not clog the plow. I ground the coulter and the share sharp every day that we plowed, and when they got dull, we sharpened them with a file, such as is used to file saw-mill saws.

The month of June is the best time to plow a marsh. Plow under all the grass and weeds that you can, to help to subdue the sod. The best crop to subdue it is buckwheat sown about one bushel to the acre. I neither harrow, nor bush, nor roll the first crops, because the sod is so tough it would be of no use; and it is almost impossible to drive teams over it, because they go down so between the sods. And all the buckwheat that I have sown, has always grown well enough without doing anything to it after sowing; I generally get from thirty to forty bushels per acre. Then about the first of the next June I plow it again, and sow buckwheat and seed it down with timothy, red top and clover. Then I bush it, and roll it, and after the buckwheat is off in the fall I roll it again. I have about twenty-five acres of marsh seeded down, and it yields over two tons of cultivated hay per acre. I intend to plow all my marsh as soon as I can. I have tried spring plowing, and fall plowing, but they are not so good as June.

I have tried different kinds of crops on my marsh. Corn, pumpkins, potatoes and flat turnips do first rate, after the marsh is subdued. I have tried most kinds of root crops, and they all did very well; also wheat, rye and oats, but they did not amount to much.

When I first plowed my marsh, most of my neigh-

bors said that I never could get it seeded down with cultivated grasses; and now some of them advise me not to plow any more marsh, because, they say the cultivated grass will run out after a while; but I guess it will not run out to anything worse than wild grass.

JOHN JONES.

Cohocta, Livingston Co., Mich.

On the use of Chaff, and on bedding Horses.

EDITOR FARMER:—I notice in your paper, February number, a letter from L. B. on the use of chaff for bedding for stock. I beg the privilege of differing with L. B. on the economy of such a course. The great problem now is, in what way can we winter the most stock at the least expense on a given amount of fodder. It is an acknowledged fact that chaff is better than straw for feeding, and from my experience I would much rather have good chaff for cattle than the same weight of hay. My plan has always been to feed in some manner everything that we raise that will help towards wintering my stock. Then I look for something that cannot be used for feeding that will do for beds. For this purpose I use sawdust. This has all the good qualities, and more, that our friend L. B. ascribes to chaff. It is a better absorbent, being more porous, therefore the liquid manures, which are by far the richest portion, are all saved. It is heavier, and keeps its place better than straw or chaff. A horse is more easily cleaned when bedded in sawdust than when in anything else.

Then it may be obtained at that season of the year when, as L. B. says, a day is worth no more than an hour would be in the time of seeding and harvest.

Four good loads will bed a pair of horses and two cows, while the same amount of chaff would keep a cow through any ordinary winter, or it might be wet down and mixed with meal, and it would go well towards wintering a horse.

Thus I am enabled to winter more stock than my neighbors, on the same amount of fodder. I think my plan is worthy of a trial, at least. The manure is as good and as easily saved as in the other case.

I am aware that this may seem to be out of season for such a letter, but as you call attention to this subject, I thought I would speak about it now while it was before the people.

L. B. R.

Port Huron, March, 1857.

[The above should have appeared last month, but was crowded out. The suggestions however, are strictly economical, and deserve attention. We should prefer cutting straw for bedding, to chaff, which is really as valuable to mix with meal for either horses or cattle, as any other fodder material grown on the farm. L. B. R. is right in considering the use of chaff for bedding a waste of material which might be converted into beef that is worth from four to five cents per pound on foot at the present time in this market.—Ed.]

Har Snakes not Hairs.

EDITOR FARMER:—Dear Sir—On the 75th page of the current volume of the *Farmer*, I notice an article from H. R. Schetterley, on the origin of hair snakes, in which the writer attributes their production, "to the electrical action of the sun," and then adds "They are not snakes,—they are merely electrified hairs." He then goes on to theorize in reference to the cause of motion in electrified hairs;—all of which may be true, so far as the hairs are concerned, for aught I know, never having experimented in that way. But of this I am certain, that hair snakes obtained from crickets are not electrified hairs, but are real, living, active little animals, as much so as snakes or eels, and possessed of a regular vital organism; of which facts Mr. Schetterley can readily satisfy himself next July or August, when crickets are plenty and in full growth. At the same time I will endeavor to satisfy myself as to the truth of his theory concerning the influence of electricity on horse hairs in water when subjected to the rays of the sun; for it may be we are both correct in our convictions in regard to the nature of hair snakes. My brother, who lives near me, is of the opinion that such is the case, from the fact, as he asserts, that he has experimented both upon animated hairs, and upon hair snakes obtained from crickets, and has found them to be very unlike in material. For myself, I have never seen horse hairs electrified into apparent life and motion.

The hair snakes I have described, and which I obtained from the large black cricket, are of a uniform size from end to end, or nearly so; of from four to seven or eight inches in length; are nearly twice as large around as a horse hair, and when taken from the water, exhibit nothing of the stiff, elastic nature of a hair. But on the contrary, when deprived of life, they present a tough, leathery, pliable skin, which may be pulled apart, or folded together like a string; properties which do not belong to hairs, however long they may have remained in water.

By what I have heretofore said, or now say in reference to hair snakes, I do not wish to be understood as advancing an idea that these animals are the product of crickets by ordinary generation; though it is not impossible that such may be the case, notwithstanding the fact that, "the offspring must resemble the parent in every essential particular"; and that these snakes are as different from the cricket, "except size," as they are from the horse; for they may change their present form, and mode of being into something as unlike their present appearance and habits, as can well be conceived. Take them as they are, they look as much like crickets, as wigglers do like musquitos; tadpoles, like frogs; or caterpillars like the beautifully bespangled butterflies into which they are ultimately transformed.

My opinion, however, is that they are rather parasites, than offspring, of which the cricket has in some way become possessed, and of which it seeks the opportunity to rid itself by jumping into water.—Hence the best time to procure hair snakes is immediately after a warm shower, when little brooks and pools of water are formed in the fields or by the way side, for then nature dictates to the cricket to dispossess itself of its burthen.

I have been led into an investigation of this matter not much from any expectation of arriving at any thing really useful, even were we to ascertain the true origin and real nature of these curious little animals; as for the sake of gratifying a curiosity in reference to the mysterious and wonderful operations of nature in the production of its myriads of living creatures.

JUSTUS GAGE.

Bees in the Gilmore Hive.

EDITOR FARMER:—At your request I send you a brief account of my bees and hives. But before beginning, I will say that I am not an experienced manager of bees; having never owned a swarm before last year.

In the spring of 1856, I built a Gilmore house for twelve hives. I had three swarms of bees which came out on the 9th, 16th, & 17th of June; these I put into the house, and from them I took 129 pounds of beautiful honey in small boxes and side hives. The main hives were all filled, and judging by the weight, I should think there were from fifty to sixty pounds in each. I had the three old swarms changed into the Gilmore house, on the 1st of July. One swarm left, or went into another hive; one was destroyed by the moth, and one only did well; I think the swarm that left went in with these; they filled their hive.

I had a few second swarms; one only did well. They have wintered thus far. My bees made but little honey after the beginning of August. The dry weather parched up the flowers entirely; and then early frost spoiled the buckwheat. As to the wintering, I have had some trouble. Twice I have had to take them into the house to thaw them out. In the fine weather in February they were out in great numbers, and seemed doing well; but since then I find that many are dying. Whether this is usual or not, I cannot say.

I think the Gilmore arrangement is the most convenient that I have seen. It is accessible at all times for feeding, or capping, or side hives.

One thing I would add with respect to the place for the house; I put mine inside of a woodhouse; I would not do so again. The pounding and splitting or any hammering disturbs them. It is best to have their house separate.

D. E. WINES.

Ann Arbor, March, 1857.

[Last fall, about the time of the State Fair, we procured a three swarm house; there was in each

hive a good swarm of bees, and also a fair supply of honey. The house was set out in the most unsheltered part of the yard. During the winter, the doors were thrown open about an hour once a fortnight, the dead bees cleared out from the floor of the hives, and the house then shut up. At the time of the warm weather in February there were quite a large number of the bees died, apparently from coming out in front, owing to leaving the side light without the blind; and they thus got chilled, and frozen. With this exception, the hives have come out this spring, healthy and strong, and when we changed the hives, about the last of March, we took out about forty pounds of honey from them, besides leaving sufficient to bring them into the spring in a healthy condition. So far the arrangement has succeeded with us; but having had as yet no experience in feeding, we cannot speak of that part of the plan of the Gilmore Hive.—En.

Potatoes and their growth.

The potato crop is attracting a good deal of attention at present. Besides the communications which we give in this number, we have quite a list of others, for all of which we have not room; but will give the substance in a condensed form. We are glad to see an interest taken in this crop. Very different potatoes are now retailed in this city at one dollar a bushel, and at wholesale from wagons they are taken at 75 to 80 cents; the half of which ought to be considered a good remuneration to the grower, if he understands the art of raising a full crop.

Mr. Almon Harrison, of Blissfield, was in our office a few days ago, and remarked that he would not plant a potato again, until he was certain that the ground was warm and ready to receive it. He had endeavored by early planting to get an early and full crop last year, but the weeds and grass got the start of the potatoes, and remained masters of the field.

Mr. Hathaway sends us a long communication which is in type but crowded out, sustaining by a course of psychological hypothesis, the idea advanced by Mr. Clark, that the produce of potatoes is affected by the flower being fructified by the pollen of different varieties. With this we cannot agree, but will state our reasons in another number, and probably publish Mr. H.'s long letter. We occasionally give place to a little theoretical speculation for the purpose of letting our readers know what ideas are brewing in the heads of the farming community.

Mr. D. D. Tooker opposes Mr. Clark's opinion. He has cultivated some fifty different varieties, and always found the tubers to be true to the parent set, whether planted mixed or separate.

E. J. B., of Edwardsburgh, writes:—

"After I have plowed my ground, I mark it out in rows four feet apart, and six or eight inches deep.

I then select the largest and best potatoes I have, to plant. I never cut them, for I believe that if a part of a potato is good to plant, a whole one is better. When I have dropped my seed, I go over the ground again, and drop a small handful of plaster in each hill; then cover them deep. I never hoe them, but work them with a fluke (a h way; and when they are large enough, I do the same with a shovel plow. This ends my work till it is time to dig them. And last, though not least, I cover them with a coat of straw, then a heavy coat of earth, after which I put on another covering of manure or chaff, and do not lie awake nights when the mercury is 24 degrees below zero, for fear my potatoes will freeze.

"I see by the remarks of Mr. Clark in the April number, that he entertains the idea that farmers are not good scholars. I beg leave to differ from him. Perhaps we may not all be able to solve a problem in Euclid, or calculate the length of the days and nights of the planets, or write a treatise on chemistry or botany; but farmers are not fools, by any means."

Mr. S. A. McGeorge, of West Berlin, writes:—

"In 1837 I paid one dollar for a bushel of potatoes not larger than hickory nuts; I planted 62 rods of land with this bushel, and am of the opinion that had I planted two in a hill as I begun, there would have been enough for half an acre at least: but, finding that I had more seed than ground, I put three tubers in a hill,—plenty of seed yet,—put four in the hill; lastly, to finish up, put in five to the hill. Now for the result. Where I put five in the hill, the produce was equal to the seed; four to the hill, something better; three, passably good; and where I put but two in a hill, I had as large and fine potatoes as I ever raised in Michigan. Again, in 1842, I planted nine eyes in nine separate hills, two of the eyes were badly injured, yet I harvested over one bushel of very large tubers. I gave away some of them. The next spring I planted 43 pounds of seed in single eyes from these large potatoes, putting 2, 3, & 4 eyes to the hill. In this case, I found when I put three eyes in, I had the most potatoes, and the most sizeable ones for eating; when but two were put in the hill, the tubers were very large. In reviewing the ground, I found there was not more than sixteen or eighteen rods planted. You will see by this, that I have raised good potatoes from both large and small seed; but to cut small tubers will be ruinous to the crop. Three eyes are enough for any hill, at three feet apart."

April Weather, Past and Present.

EDITOR FARMER:—After hearing every person I meet exclaim, "I never saw such weather for this time of year;" I thought I would sit down this blustering afternoon, and look over the diary of a few years past, and see how much more our present Miss April is at fault than those of other years.

I find set down for April, 1842 as follows:—Thunder showers every month the past winter. March, mild and pleasant. April, sour and cold; great rains, mud intolerable.

Of 1843 I need say but little; we all remember her. Of the beginning of April I find it written, "Snow nearly one foot deep; ice strong enough to hold up the weight of a horse the Saturday after township election."

Of 1844 and 1845 I have no record.

"April 1846. From the 1st to the 14th, cold, dull, cloudy, with snow, and hard freezing. On the 12th, snowed two inches deep."

1847 appears more favorable, except on the 18th, when the frost was very severe.

"April 1848 commenced fine, then followed cloudy weather, rains, and one hard hail storm. On the night of the 18th, the snow was three or four inches deep, and cloudy, cool weather continued to the last of the month. Plowed with mittens on, the 13th."

"April 1847. 1st, fine, but cool; 14th cloudy and cold for April; 16th, hard freezing for three nights; 25th, hard white frost; cold finishes this month."

1850, I find much the same. "The 15th cold as winter; snow on the 13th, ice half an inch thick on the 14th. Cold weather finished the month."

I neglected the month in 1851; but I find that the winter of 1851 and 1852 commenced in November; stormy, rain and snow, with but little pleasant weather till the first of May. December and January the thermometer 18 deg. b low zero.

April 1853 reads more favorable at the first. "Hard freeze on the 10th; rain and snow; 13th very high water; 15th slow, heavy rain; 24th, rain and snowed all day."

"April 1854. 1st, sunshine; cold, cloudy, snowed; froze one inch thick on the 10th; snowed most of the day; 14th, froze hard, snowed six inches deep. Cloudy and cold finished the month."

April 1855, appears a little better on the record. "Clear, cold on the first; heavy snow storm on the 2nd at Syracuse N. Y., blocking up the cars. Snowed here the 6th, came in squalls."

In 1856 I find but one snow storm in the month, and that was on the 9th.

Thus ends my docket of the weather for the month of April for several years; and, comparing this with the daily exclamations that greet me, I think we are apt to forget from one year to another. I remember of one spring when the forest trees did not show as much signs of life on the first day of May, as they do at present.

I have made a resolve several times to say something the in *Farmer* about wheat and clover; I may at some future time.* Success to OUR PAPER, is the sincere wish of

OLD WAYNE.

Pittsfield, April 16th, 1857.

[* We shall be glad of anything practical on the subject. Please send it in.]

Horticultural Department.

New Native Grapes.

Grape fanciers, in our high latitude, often find it impossible to fully ripen our native varieties, such as Isabella, and Catawba, unless in sheltered localities. Pomologists, especially some of the more enthusiastic ones about Boston and Philadelphia, appear to have long felt this difficulty; and, accordingly, have set about the production of seedlings, by hybridization, and otherwise, with the hope of originating something to supply the desideratum. The result, already, has been the production of an array of new and promising varieties, of which we may well be proud: many of them ripening considerably within the limit of our shortest seasons.

Among the favorably noticed in our horticultural publications, are the following:

Diana, the oldest of the new seedlings, originated from seeds sown by Mrs. Crehore, of Milton, Mass. It bore its first crop of fruit in 1838, and fruit was first exhibited before the Massachusetts Horticultural Society, in 1843. Its fruit was so much like Catawba, as to be mistaken for that variety, although ripening some weeks too early.

Hovey's Magazine says of it: "Ripe from a week to ten days before the Isabella. It is a most abundant bearer, and has far less of the taste peculiar to our native grapes, than any other variety." "As early as the first of September, when the berries first change to a greyish tinge, they are quite sweet, and agreeable to the taste, but they do not acquire the high flavor which constitutes its great excellence until they assume their full color, when it is one of the handsomest grappes we have ever seen." Color, pale, delicate red. Recommended by the American Pomological Society for general cultivation.

Cocord, is a more recent seedling, raised by Wm. Bull, of Mass. It is said to be larger than Isabella, of a similar color—very beautiful—not quite equal to that variety in flavor, but ripens two weeks earlier and fully three weeks before the Catawba. It is said to be a good grower, and bearer. Recommended by Pomological Society as promising well.

Delaware, is another very promising variety, supposed to have originated from seeds of a foreign variety, in New Jersey; whence it was introduced into Ohio, twenty-five or thirty years ago, where it has begun to attract notice only within the last two or three years. It is claimed to be earlier, and more hardy, than either Isabella, or Catawba. It is described in Hovey's Magazine for 1856, as "ripening some ten or fifteen days before the Isabella. The bunch small, very compact; berries, small, round; skin, thin, of a coppery rose color; pulp, very little; flavor, sweet, but sprightly and pleasant." Re-

commended by the Pomological Society as promising well.

Rebecca, is a comparatively recent acquisition, and appears to be at present, attracting more attention than any other variety; partially, perhaps, from its color, which is white. The following description is taken from the *ad interim* report, of the chairman of the Fruit Committee of the Pomological Society:—

"The Rebecca originated in the garden of Mr. E. M. Peake, of Hudson N. Y., about eight years ago; and seems to have been named from Mrs. Peake, who transplanted it, while young, with her own hands, to save it from destruction." *Bunch*, of fair size, about six inches in length, and very compact in form; *berry*, size: full medium, three fourths of an inch long, by five eighths broad; *form*, neither round nor oval, but obovate; *skin*, thin semi-diaphanous, greenish white, sometimes tinged with amber, and covered with a thin, white bloom; *flesh*, very juicy, melting, and tender in texture without being pulpy; *flavor*, rich, saccharine, and vinous, with a peculiar luscious aroma, distinct from that of any other grape; *seeds*, small, usually two, often three or four, and rarely five, in each berry; *quality*, "best;" *maturity*, middle of September." Recommended by the Pomological Society as promising well.

Early Northern Muscadine, is a seedling produced by the Shakers of New Lebanon, N. Y., some fifteen years ago, and which has been invariably condemned, by the horticultural associations which have reported upon it, as unworthy of cultivation. In a recent communication to the Rural New Yorker, the Shakers assert that the Pennsylvania Hort. Soc. whose committee gave one of the reports in question, could not have had the true variety before them. By recurrence to the Horticulturist, (page 52,) however, it appeared that the identical specimens reported upon, were presented by the Shakers themselves; and must, therefore, be supposed to be true. "The Chairman reports that, after a careful examination by the taste, &c., (the odor could not be mistaken,) they were clearly of the opinion that the plant is a seedling of the worthless Fox Grape of our woods, and not deserving a place in any catalogue as desirable for culture, and no more to be compared with our Isabella or Catawba than a Chicken Grape to the White Muscat of Alexandria, and consider it a duty to stamp with emphatic reprobation any attempt to introduce for cultivation an article so utterly destitute of value as the so called Northern Muscadine."

At the meeting of the American Pomological Society held at Rochester, N. Y., last September, while this variety was under discussion, Mr. Buist, a well known pomologist of Philadelphia, remarked that, "It had been brought before a committee of which he was a member, and that it was greatly against his will that he remained in the room with it."

Mr. Thomas of N. Y., said: "He had been much surprised at the pertinacity of the Shakers in recommending this grape so highly. It was, as he had often said, no other than the common Brown Fox."

The President, (Col. Wilder,) also expressed his opinion of the worthlessness of the variety.

The owners appear to be urging the sale of this variety, to some extent, in this State, and, with apparent success among those who neglect to put themselves in the way of horticultural information.

It is scarcely possible that these associations, embracing the most thorough pomologists of the country, and watching the introduction of pomological novelties with the warmest interest, should fail to place a proper estimate upon this variety, which has been so long before the public as to give ample opportunity for becoming acquainted with it; but the end of humbugs is not yet.

Canadian Chief, is a light colored grape, from Canada, which has attracted much attention recently, from its fine flavor, great bearing qualities, earliness, and great hardiness, even in the climate of Canada; and yet, according to Hovey's Magazine for March last, it is shown, from reliable authority to be a French variety. The following description is from the *ad-interim* report of the Committee of the American Pomological Society: "*Bunch*, very large seven inches long by six broad; compact. *Berry*, size, five eighths of an inch by five eighths. *Form*, round. *Skin*, green with a faint amber tint. *Flesh*, tender. *Flavor*, pleasant, but subacid, probably, from being pulled before thoroughly ripe, as the seeds were evidently somewhat immature. *Maturity*, the specimen examined was received in November, though no information was given in reference to the time it was taken from the vine." It appears that other European varieties, also succeed in the open air, in the locality where the "Chief" is cultivated, consequently its success in other localities may fairly be considered doubtful.

To Kalen, Emily, Clara, Graham, Raabe, and Union Village, are new, and rare varieties, yet but partially tested, but which give promise of valuable qualities.

J. T. Allen of Salem, Mass., is engaged in the production of hybrids by crossing native with foreign varieties under glass, and has obtained some plants of good promise. He is understood to be employed, at present, in testing their hardiness under open culture.

Heretofore the grape amateur has been troubled with visions of hot houses, cold vineries, brick walls, and other expensive paraphernalia; but the increased number, and value of our native seedlings, bids fair to introduce a new era in grape culture, by banishing the foreign, and tender varieties, and rendering their management as simple, and easy as that of the apple or pear.

T. T. LYON.

Plymouth, April, 1857.

To raise Gooseberries without Mildew.

ED. MICH. FARMER, *Dear Sir*:—I propose to answer "Uncle John" how to raise gooseberries.—If he will follow my directions, I will warrant he will not be troubled with mildewed gooseberries. Here is the recipe: Get Houghton's Seedling, and the Mountain Seedling gooseberry, plant them in good garden soil deep worked and kept clean from weeds, and if he does not have good crops of delicious fruit I will be much mistaken, and if they mildew I will pay him back his money (if he shall have got them of me, and I have plenty of them for sale.) They have not been known to mildew in any circumstances or locality, that I can learn of since their introduction into existence. They are productive, delicious and strictly hardy in this climate, seeming regardless of the cold, even that of last winter, which my bushes withstood, and gave me a handsome and abundant crop of fine fruit the past summer, just as if nothing had happened to them in the way of climate, either heat or cold.

"Uncle John's" method of raising potatoes is a good one, and worthy of imitation. Though I have no objection to offer against Mr. Chipman's large seed. Presuming however, that he would have had as good a yield if he had cut out most of the eyes and thrown them away, for it is impossible that so much seed can all grow to advantage. He would doubtless have had a more uniform size, less proportion of small potatoes; at all events I rely upon this being a uniform fact. Possibly his idea may be correct, that "Dwarfs never produce giants;" but I hold it to be out of the question, that so much seed as he speaks of ("three large potatoes in a place") can be necessary and all productive. Now it is possible enough that in dry seasons a large piece of potato may, by its moisture, be beneficial. Respectfully,

J. T. WILSON.

Jackson, April, 1857.

THE CURCULIO.—Mrs. A. S. Chamberlain of Flatrock writes that she has found that tansey planted under pluntrees, has the effect of keeping off the Curculio. She says that a tree around the stem of which tansey grew was untouched by the insect, whilst the fruit on other trees in proximity to it had their fruit destroyed. As this specific is easily tried, we commend it for farther trial to plum growers. As a mightier enemy than the curculio swept off all stone fruit last year, it is probable this pest of the garden may not appear in such numbers as usual, but it is well to be prepared for him, with sheets, fumigating pots, or any other equally destructive engines of death.

Mr. Bateham of the Ohio Cultivator says the fruit prospects in Ohio are generally very promising. The late cool weather is doing much good by keeping the trees from starting to bud out.

A Few Things which may be done in the Garden this Month.

If strawberries have not been set out, already, the beds should be made ready immediately, by digging in as much manure as possible, and setting the plants in hills two feet apart, each way. By keeping them well trimmed, weeded and watered, a small crop may be realized this season, and after fruiting time, the beds may be re-dug, without disturbing the plants, and the vines will cover the whole ground, so as to give a full crop next spring. This plan gives a good temporary bed, with little trouble, but where permanent beds are required, the bed needs trenching, with any quantity of manure.

Most dabblers in gardens think it an easy matter to raise Onions; but every one who has raised this vegetable knows that to secure a good crop requires skill and attendance. If possible the seed should be got in reasonably early, say about the second week of this month, but if the ground is not fully ready, it is better to wait a week. Onions should have a soil at least two spadings deep, made rich with a compost of marsh muck and old stable dung. When this plant has such a soil, the crop on a rod is as good as that on four grown in the ordinary way, and of course saves an immense amount of weeding.

Few vegetables are more palatable than Lima Beans, or form a dish which may be used winter and summer with more satisfaction, but there is great difficulty often found in raising them, from the delicate nature of the seed, which the least cold affects, and also from another cause, to wit, the crust that forms on the top of the soil after rain, followed by a drying wind. Before planting Lima Beans, the poles for them to run on should be firmly set by plunging a stout crowbar down and working the hole wide enough to suit. After the pole is firmly set, make the earth around it as mellow with old manure as possible, then press two or three beans edgewise into the soil, and cover them not more than an inch deep; should a rain come before the beans sprout and a crust be formed, it should be broken into mould with the fingers. Once the beans have leaved above the ground they are safe from every thing but frost. A crop will amply repay this trouble, and they are the most delicious of all beans, whether green or dry.

The sets of Sweet potatoes should be got ready, and started in boxes or hotbeds. The sets generally take from ten to fifteen days to sprout, according to the heat management to which they are subjected. The common mode of starting the plants for setting out, is to make a box of rough boards as long as may be needed for the number of plants to be set out. This box is filled with stable manure to the depth of a foot or fifteen inches, well trodden down, on the top of this, is laid a layer of sandy loam, about two inches in depth. Then the potato sets are placed

upon this, about an inch apart, and covered with the sandy loam to the depth of two inches. The bed is then covered with fine hay or straw to the depth of five or six inches, and pressed down, laying some boards over it to shed off the rain. The tubers will sprout under this management in about ten or twelve days, so that those set about the 10th of May will be ready to transplant about the last week in the same month. This is as early as they should be set out, to escape late frosts. Sweet potatoes need a light sandy loam, rather rich, and as good a plan as any is to set them out by lifting them with a handful of earth from the box in which they have sprouted directly into their drills, the sets being put twelve or fourteen inches apart. One of the most successful cultivators of this plant we know, is Mr. J. B. Mott, of Dowagiac.

The Flower Border.

Most of the experience of those who have any thing to do with flowers, is confined to the borders of the front door yard, or to a few beds or plots in front of the house. And even with regard to these there is a great want of knowledge. In several of the late numbers of the *Farmer* the hot bed has been treated of, and last month the annuals were named which might be started in a half spent hot bed during the present month, with the design of having them ready to set out in the flower bed or border at an early period during the summer, and thus be able to enjoy them for a longer term than when the seeds were set out in the open ground. But annuals are not the only plants wanted to make a border look well. There are a few biennial plants, and also hardy herbaceous ones, as well as some half hardy plants which can only be procured from nurserymen, which are required to make a pleasing show. We have no fear, once the taste for floriculture has received a little impetus, that it will die out. In fact it grows with what it feeds on, and those who are thoroughly imbued with it, never can be quiet where there is a yard of room, a spade, a hoe, a rake and a watering pot.

A few simple instructions as to the laying out of a border, with the names, colors, and height of the several plants, we believe will be suggestive and useful at this season. Very many of the country houses of the State, are situated back from the road a distance of fifty to one hundred feet and over, and very frequently there are some attempts made to render the approach to the house ornamental by having a few flowering plants and shrubs on either side; with a few exceptions however, there are generally evident the most crude attempts at ornament, not from any unwillingness to bestow labor and care upon the plants, not from any fears of the slight expense necessary to render the border more perfect; but from a lack of knowledge of what is requisite. We will

take the case of a house with an approach to it from the road of about sixty feet, and which has borders on each side, with the rest of the front inclosure in grass. There the borders will generally be found running up from the gate to the house in a straight line and when close to the front entrance, the walks diverge to the right and the left. The front yard frequently has a breadth of from six to seven or eight rods; where the walk has a width of 12 feet the borders on either side should have a width of not less than 6 feet, and may be ten, according to the taste of the cultivator. We would have no trees in the borders; they would be more properly located further back. Even evergreens should be excluded.

The borders should be dug deeply, and manured highly with the best and oldest manure from the cow stables. The borders in fact ought to be thoroughly trench dug; but this is an operation which we find but few willing to attempt, although in our climate it is of the greatest importance. When the borders have been dug, and properly raked smooth, then arises the question how shall they be planted. No text book or special directions, can decide this; but there are certain necessities which must act as a guide in all cases. Plants are wanted which will bloom in spring, summer and autumn. They are of various colors; and they have a variety of foliage, and are of various heights, taking up more or less room. Some spread and form a mass of brilliant colors close to the ground like the Portulaccas and Verbenas; others as the Phloxes, the Dahlias and the Hollyhocks, are tall and bear their flowers on high; and in the arrangement of the border these several qualities have to be considered, as well as the necessity of leaving room among the perennials and biennials for the annuals. As a matter of course, it will be the first necessity to locate and select the shrubs and herbaceous plants; after these are placed the filling up will be made with the biennials, annuals, and such plants as Dahlias, Verbenas, as it may be deemed advisable to set out.

If the border be fifty feet long by eight feet wide it will contain four hundred square feet, and the following list and arrangement will fill it up pretty well, besides providing for a good succession of flowers during the season until the frost comes. This list is not intended for professional gardeners, but is meant only as a guide to those who want some starting point from which they can make their borders to suit their locality. There are no plants named, which cannot be procured at most of the nurseries in the State, and certainly at those of Messrs. Hubbard & Davis, and of William Adair near this city. The list consists of the following:—

Roses—Hybrid perpetuals; Prince Albert, red; Madame Laffay, crimson; La Reine, rose; Blanche Vibert, white; Geant des Batailles, purplish crim-

son; Rivers, crimson; Summer Roses; Madame Hardy, white; Moss Rose, red; George the Fourth, deep crimson; White Provence, Persian yellow, and Queen of the Prairies, climber—a dozen. These roses are all good, none better. Each would occupy two square feet.

Persian Lilac—Whoever has had a Persian Lilac once, will never willingly grow any other kind. It blooms any June, has lilac flowers. Three square feet.

Syringa—White and very odiferous flowers. Blooms June and July. Three square feet.

The **Guldres Rose** or Snowball, blooms in June. The choicest variety is the Crimped Leaved, (*Viburnum plicatum*.) Three square feet.

The **Flowering Currant**, also makes a fine spring bloom. Two square feet.

The **Honey Suckles**, should be allowed to climb poles. They flower all the season. The Scarlet Trumpet flower is very fine. Two square feet.

The **Moutan Peony**, is a most gorgeous plant, flowers very large and magnificent. It should have an empty flower barrel turned over it in winter. Three square feet.

The **Flowering Almond**, (*Amygdalus nana*), is a very early and full flowering shrub. It should have a barrel turned over it in winter. Two square feet.

The **Hollyhock**, is usually grown from seed, but the best double flowering kinds, are procured from the florists. It makes a fine show during the summer months, and looks well when planted in clusters of three or four together, of different colors. A cluster of three would need four square feet.

There are three or four kinds of **Peonies**, the White, Crimson, Sweet Scented and Purple Fringed, are each very ornamental, need a rich manuring every year. Flower June and July. Occupy singly three square feet.

The **Dahlia**, without which every garden is imperfect, should be trained to stakes, and the plants should be started in a hot bed as early as the beginning of May. There are all colors except blue. These plants form one of the chief autumn ornaments of the garden. They range from five to eight feet high, and each plant should have at least two square feet.

The **Buffalo Berry**, or (*Shepherdia argentea*) is very ornamental, its flowers in the summer and its brilliant red berries in the fall render it much admired. It is necessary to plant a male and female together as the flowers of each sex grow on separate plants. The *Shepherdia* will grow to eighteen or twenty feet in height.

The **Acacia**, or *Robinia hispida*, is a very brilliant spring flower, and furnishes a fine mass of bloom at an early season. It should have full six square feet.

The **Fritillarias**, **Tulips**, **Anemones**, **Irises**, **Crocuses**, **Daffodils**, are all hardy bulbs, which should

be set out in the fall, and be covered with a few inches of manure to protect them from the severity of the winter. They should be set in clusters of from three to any number of bulbs the cultivator may desire to put together.

The **Pulmonaria Virginica** has a beautiful blue flower which blooms in June. The **Aquilegia**, **Delphiniums**, **Aconitum**, or **Columbines**, **Larkspurs**, and **Wolfbanes**, bloom late, and are varied in colors. Each cluster should have two square feet. **Canterbury bells**, when well grown, add to the beauty of the border during June and July. **Pinks**, **Sweet Williams**, **Carnations**, and **Phloxes**, may be set out according to the taste of the grower. Of the **Phloxes**, the **Van Houttei** is one of the best; this species of plant presents a variety of colors to choose from. Each clump needs about one square foot.

Among the fall flowering plants the **Asters** are conspicuous. All the annuals likewise furnish a fine bloom for the filling up of the border during the fall season, and the good taste of the gardener will find much pleasant exercise in locating them as they become fit to transplant from the hot bed.

The **Petunia** is one of the finest flowers of the fall season. They are easily grown from seed, but the best varieties are grown from selected plants, kept and propagated by the nurserymen. The **Petunia** is as indispensable as the **Dahlia**, and likewise presents a variety of colors, amongst which white, striped, and crimson are most frequent.

The following attempt to show the arrangement of a border, is only meant as a guide, and assistance, and is not designed to be followed implicitly:—

* Persian Lilac.	Mound of Verbenas.	* Asters.
* Dahlia.	* Canterbury Bells.	* Scabious.
* Phlox.	* Delphinium.	* Irises
* Foss.	* Moutan Peony.	* French Marigold.
* Hollyhocks.	* Coreopsis.	* Pinks.
* Syringa.	* Lupines.	* Gilas.
	* Red Peony	* Petunias.
	* Asters.	* Balsamines
* Persian Yellow Rose.	* Phlox Drummondii.	
	* Cluster of Asters.	
* Sunflower.	* Aconitum.	* Petunia.
* Flowering Currant.	* Mound of Verbenas.	
* Honorsuckle.	* Dianthus.	
* Crocus's.	* Tulips	* Hyacinths.
* Kiver's Rose.	* Valerian.	
* Dahlia.	* Agrostum	* Mexicanum.
* A pair of Shepherdis.	* Aquilegia sinensis.	
	* A white Peony.	
* Snowball.	* Pulmonaria	* Portulacca *
	* Cluster of Asters	
* Hollyhocks.	* Larkspurs.	* Balsamines.
	* Petunias.	* Phlox Drum.
* La Reine Rose.	* Spirea prunifolia	* Flowering Almond.
	* Dahlia.	* Bed of Pinks.
* Persian Lilac.	* Phlox.	* Pæonia crim-on
		* Portulacca.
* Horeysuck'le.	* Petunia.	
* Rose Giant des Batailles.	* Asters.	* Irises.
	* Dahlia.	* Larkspurs.
* Robinia.	* Lupines	* Petunia.
	* Ros. Madame Laffay.	* Mound of Verbenas.
	* Dianthus	* Phlox.
* Flowering Currant.		* Aquilegia.
* Hollyhocks.	* Petunia	* Phlox * Drum,
	* Dahlia.	* Coreopsis.
* Rose, Prince Albert	* Asters.	
	* Mound of Verbenas.	
* Moss and * White Rose.	* Pinks.	* Irises.
	* Portulacca, Mignonette Verbenas, and other low plants.	

[The * indicates about where each plant should be located.]

The Household.

"She looketh well to the ways of her household, and eateth not the bread of idleness."—Proverbs.

EDITED BY MRS. L. B. ADAMS.

From our Young Correspondents.

We are under obligations to our young friends in the country for the pleasant letters they are sending us. All are cordially welcomed to the Household, and we should like to give each one a chance to say all they wish to in their own way; to run here and there at will through the house, and yard, and garden, taking up all the room they choose; but see to what a little space our ambitious Editor has confined us! With his plowing and ditching, with his fields and orchards, his cultivated marshes, his pastures and potato patches, he has barely left us room for the House, and the smallest possible door-yard for the children to play in! Yet by a little management we may get along very comfortably. The children must not go too far in their play, and those who wish to speak publicly, must not complain if we drop the prefaces and preliminaries of their remarks and give only the substance and best sense of what they would say.

The first to greet us this month, is Elizabeth M. Orton, of Ortonville, Oakland county. She evidently has her eyes open to what is going on out of doors as well as in the house. After a little introduction, she says:—

"Father has taken the *Farmer* almost seven years. He takes four other papers, but cannot do without the *Farmer*. He has let out one farm for three years, and the other for one year; he is building this year, and could not attend to farming as he would like to. We have a small village here: one store, one grist mill, one saw mill, a blacksmith's shop, a wagon shop, and several dwelling houses.—The inhabitants here drew up a petition, had it signed and sent to Washington, requesting to have a post office established here; and it is thought the request will be granted. When the mail is brought in now, the question is asked, 'has the *Farmer* come?' If the answer is in the negative, the downcast looks and sorry faces show that it is prized when it *does* come.

I would like to ask those young ladies who used to write for the *Farmer* if they think they are forgotten? I know they are not, and I wish they would write again, that the readers of the *Farmer* may treasure up their writings as of old."

The next, is from Eliza H., of Lapeer; she writes as only a patient, loving elder sister can. "My parents moved to this place when I was only five years old. The trees were cut away enough to secure the house from being crushed by their fall; all the rest was a dense forest. Neighbors were few; there

was no school for us to attend, but our parents did all they could to supply the deficiency. At length when the *Farmer* came, a great vacancy seemed filled. O, with what eagerness did I wait to see the leaves cut, and to have an opportunity of perusing the Household department. Well do I remember the writings of Mrs. L. F. Foster, and the grief I felt when the *Farmer* announced her death. For a time there seemed to be a void in the paper; she had taken a deep interest in the welfare of children, and every number was sure to come laden with some salutary advice. How often have I felt satisfied with my plain dress after reading her remarks on the difference between a plain dress, with clean hands and face, and smooth hair; and that of the most costly apparel without cleanliness.

We have long had a school house, and, for the most part, good schools; and although they came too late to benefit me much, I have younger sisters and a brother to enjoy them. My mother has long been in feeble health, but we do not keep any hired help in the house, though we generally have a large family. We do not need to hire, as there are four of us, sisters; and we take the house work by turns, two of us at a time; so that it is not very hard.—Little Emma, the youngest, is my helpmeet. She is ten years old. She thinks she can do almost anything, and, 'where there is a will there is a way,' you know. The other day she wished to make a cake for tea; so, of course I let her do it. She did not think she knew it all, but wanted to learn, and with a little showing she made a very nice cake. So at least papa thought at tea time. I do not wish you to think her above play. She is like other children, sometimes very wild. She likes to go to the barn and hunt eggs, and feed the calves, and romp like other children. But I will not try your patience longer."

Mary M. W., of Noble Center, thus writes of "Woman at Home." "It is at home that woman has the power to exert her influence in the greatest degree, and it is not a mean nor ignoble part; in the exercise of her home duties she influences the affairs of the community, for man carries through life the habits and feelings he has been educated in, in his early home. There is a class of women who are seldom at home unless it be to make an attack upon the purse of husband or father, and the house is left to the management of servants. They think it servile to engage in home duties. But it is woman's highest honor if she pursues it aright and sees that her household acquire habits of order and industry.

Daughters! your fathers have 'risen early and late taken rest,' and toiled wearily through the long day that your wants might be supplied, and you are indebted to him for every thing you have, and should you repay him by your unmindfulness of his wants and treat him with neglect?

As a wife and mother, woman should make home the centre of affection for husband and child. Let woman strive to make home a place radiant and peaceful by her smiles and love, and to the weary, heavy hearts of those who will centre there, it will seem like fairy land dreams.

Sorrow, pain and the world's rude passions will never enter in half their bitterness, but be borne with patience, resignation and content."

The next is from D. L. Atkins, of Olyde, St. Clair county. Writing under date of April 7th, he says: "We had some very fine farming weather for a few days, and all the farmers in our neighborhood were once more engaged in their agricultural employments. But alas, what a contrast now! The ground is covered with snow ten inches deep, and farming is at a stand still again. This stormy day I take time to write, but I should like it much better if the weather was fine, for I had rather be out doors at work than be shut up in the house. I like the spring weather very much, for then I can learn to plow, and I always get the dragging to do, which I like. I think the winter wheat will be a poor crop here; it looks poor enough at present. The spring has been very unfavorable for it so far, on account of the severe frosts after the snow went off, which have crisped it up like grass after frost in the month of May. But we hope the heart is alive, from which it may spring up and grow again.

To my young friends I would say they ought to be more careful in making their enigmas, and not have the same letters represented by different figures. It very often happens that the words which form the answer have several letters alike, and when different figures are used to represent them, it makes a blunder in the answer, which you will see is the case with the two enigmas in the April number; besides, that in the historical one, several letters are omitted altogether."

In reference to the errors in the April enigmas, we would say that the authors are alone to blame. As we have said before, we have not time to study them out, to see whether they are right or wrong, but in the instance of the historical one published last month, we did undertake it while reading the proof, and found so many errors that, had it not been too late, we should have put it aside at once. As it was, we corrected what we could in the hurry of the time and let the rest go. We hope all enigma-makers will make sure that their copy is *right* before they send it in. Write each line separate, not all mixed and run in together, as some of you do; make every figure distinct, and be sure to send the answer, and your name. The name need not be printed unless you wish it, your initials or your first name alone will do for a signature, but we want to know who is writing to us. Those who have sent

enigmas without complying with these rules, will not, of course, expect to see them in print.

Geographical Enigma.

I am composed of 16 letters. My 1, 5, 7, 13, 11, 14, is a lake in Siberia. My 2, 10, 16, 2, is a lake in Scotland. My 3, 7, 14, 2, is a river in Africa. My 4, 2, 10, 2, 6, 7, 2, is a town on the Island of Hayti. My 5, 3, 11, 6, is a country in India. My 6, 5, 16, is an island in the Irish Sea. My 7, 12, 8, is a river in Bavaria. My 8, 5, 1, is a river in Bavaria. My 9, 11, 14, 13, 7, 10, 18, is a town in Scotland. My 10, 15, 1, 1, 14, 2, is a river in England. My 11, 10, 10, 5, 8, is an island in Scotland. My 12, 11, 3, 13, 15, 3, is a town in China. My 13, 5, 10, 11, is a lake in Asia. My 14, 2, 3, 5, is a Gulf in Asia. My 15, 14, 6, 2, 8, is a lake in Asia. My 16, 7, 2, 6, 2, 12, is a river in Europe. My whole is the name of a great philosopher. GEORGE EELY.

Allegan.

Enigma.

Thirty-seven letters compose me,
A noble saying, as you'll see.

My 1, 28, 85, 3, 10, is a kind of grain. My 29, 35, 10, 9, 13, 5, 18, is a city in Michigan. My 2, 8, 24, 35, 20, 87, is a town in Livingston county. My 6, 11, 22, 17, 7, 19, 23, 6, 35, 35, is a county in Michigan. My 12, 34, 35, 21, 86, 81, 15, 83, is a residence. My 13, 32, 25, 15, 29, 3, 16, 17, is a county in New York. My 18, 26, 25, 15, 27, 30, 32, is a city in New Jersey. My 28, 25, 3, 26, 18, 23, 25, 17, 6, 35, is the name of a flower. My whole is an old maxim. R. H.

West Berlin.

R. H. will perceive that we have made some alterations in his enigma. The subject is a good one, and might have been made much more of. In the first copy many of the letters were used over and over again, while several others were left out entirely; and this is the case with many other enigmas which have been sent in, but will not be published.

We do not know who Jack, Obediah, W. W. V., Fanny, Lilly, W. H., &c., &c., are; and of course all they have written goes for nothing. A number letters with answers to enigmas have come too late for notice.

E. H. T., of Waterford, shall have a hearing soon.

We have forwarded the letter of S. E. Brunson to L. C. K.; it is a good letter, but more fitted for private perusal than for publication in the *Farmer*.

Answer to Charade in April Number—WASHINGTON. *Answer to Historical Enigma*—MAJOR GENERAL WINFIELD SCOTT. *Answer to Miscellaneous Enigma*—INDUSTRY and ECONOMY. Answered by Frank B. Schorno, Filmore; Eliza Brown, Phelpsstown; Sarah E. and Hattie Brunson, Victor; J. Padley, Milford; C. L. M. Benjamin, Cha's N. Ayers, Brandon; Cleanthe H. Lerieh, Utica; J. N. Allen, Kalamazoo; Charlie W. Rudd, Orion; Geo. W. Krum, Vergennes; W. G. Phillips, Grand Rapids; Lizzie H. Allen, Saginaw city; J. Kinney, Jr., Plymouth; J. J. Monroe, Kalamazoo; Harmon Camburn, Tipton; R. H., West Berlin; O. M. Whipple, Novi; J. D. Turrell, Northville.

A MARRIAGE NOTICE.—We have not been in habit of recording marriage notices, but a few days ago a young and good-looking gentleman made his first appearance in the office of the *Farmer*, saluted us familiarly as if he had known us for years, and after announcing himself as N.E.D., who figured in our columns some time ago as an anxious inquirer for a worthy partner of his joys and sorrows, he handed us the following notice:

MARRIED.—In Emerson, Gratiot county, March 22, by R. Coffin, Esq., ORVILLE M. WOOD, late Clerk of Gratiot county, to Miss ELSIE A. ALLEN, of the same place, late of New York.

Of course we could not refuse. To those ladies who may wish to know what the bridegroom is like we refer them to page 181, vol. 13 of the *Michigan Farmer*. They will also find what kind of a wife he wanted. We have not seen the lady, but "Ned," has not overdrawn his own picture and we are inclined to believe he will take good care to make a husband that any woman might well be satisfied to have.

MICHIGAN FARMER.

ROBERT F. JOHNSTONE, EDITOR.

DETROIT, MAY, 1857.

DEDICATION AND OPENING OF THE MICHIGAN AGRICULTURAL COLLEGE.

The Michigan State Agricultural College will be opened, with appropriate dedicatory exercises, on Wednesday, the 13th of May. These exercises, upon which the public are invited to attend, will commence at 9 o'clock, A. M., and will consist, in part, as follows:—

HON. H. L. MILLER, President of the Board, will make the opening address on behalf of the State Board of Education, on the delivery of the College and Farm to the care of the President and Faculty of the Institution.

HON. JOSEPH R. WILLIAMS, President of the College, and Director of the Farm, will respond on the part of the Faculty, in an address indicating the design, objects, and policy, of the institution.

His Excellency KINSLEY S. BINGHAM, Governor of the State, will follow in an address on behalf of the Commonwealth of Michigan.

The Faculty of the Institution—which will be filled at an early day—consists, at present, of the following gentlemen:—

HON. JOSEPH R. WILLIAMS, President and Director of the Farm.

ROBERT D. WEEKS, Professor of English Literature and Farm Economy.

REV. L. R. FISK, Professor of Chemistry.

J. C. HOLMES, Professor of Horticulture.

D. P. MAYHEW, Professor of Natural Science.

C. TRACY, Professor of Mathematics.

Students desiring admission to the Institution, should present themselves at the College for examination by the Faculty, on Monday, the 11th of May, at 9 o'clock, A. M.

By order of the State Board of Education.

IRA MAYHEW, Secretary.

Lansing, April 25th, 1857.

Just as we were going to press Mr. Jones of Dexter called on us to inspect a shorthorn bull, named SIRLOIN, which he had brought up from Ohio. This bull was bred by Geo. Renick, and is an animal of very great excellence. He is red, with but little white, a small fine head, short leg, a very great width and depth of chest, a well developed fore quarter, a straight and broad back, a body deep and square, buttocks broad, well filled out, and carried up plump to the junction of the tail with the back—all make him a first class animal. He is three years old, and weighs 2135 pounds. Sirloin is a grand addition to the stock of this state, and he will prove it.

Mr. Bowen of Chelsea, Mich., has recently purchased the Hereford bull GALLANT, and heifer LADY SOUTHAM. This is the first introduction of this valuable breed into this state, of any importance.

C. S. Wainwright, who advertises Devon stock for sale, is the most enterprising and reliable breeder of pure Devons in the United States.

The Markets and their Prospects—Wool.

The great scarcity of feed throughout all parts of the State, has affected the prices of corn, and oats during the past month, and we find that there is an advance in these two articles. Oats selling at 50 cents per bushel, and corn is at 60 cents. Hay is also a little higher, but not much. Wheat remains steady, with very light sales, and but little offering from farmers wagons. Good samples bring \$1.25

to \$1.28. Flour keeps steady at \$5 50 for good brands of white wheat. The close opening of navigation retards business some, and renders the wholesale prices somewhat unsettled.

Fat cattle are in demand and bring high rates. First quality of well fed oxen will bring 5 cents per pound live weight. Common oxen, fed for the butcher range from 4 to 4½ cents. Sheep are at all prices ranging from \$4 to \$7 per head, and costing about 5 cents live weight. Hogs cost 6 to 7 cents live weight, which brings them to \$3 to \$8.56 per 100 pounds dressed. Calves sell at prices from \$3 to \$6 per head. Sheepskins now bring \$2 each. Butter still is maintained at 25 cents per pound, with the prospect that it will not be much less during this month.

Clover seed and timothy remain as quoted in our prices below.

The Wool question is at present one of the absorbing topics of speculation. The new tariff which goes into operation on the first of July, is an experiment, the effects of which cannot be fully understood until it fairly at work. By its provisions, the duty on wool worth less than twenty cents per pound is taken off entirely, and at the same time the duty on all imported manufactured wool is reduced 6 per cent below what it now is. This law will therefore stimulate the wool market in two ways. In the first place it permits the American Manufacturer to enter into the foreign market upon the same terms as the manufacturer of the great wool consuming nations, and makes therefore an increased demand for low priced wools, and consequently stimulates prices. Again the 6 per cent taken off imported goods is a boon to the foreign manufacturer, which enables him to compete more firmly with the American buyer, and to pay a somewhat higher price than he now gives. This also will tend to keep up prices. Thirdly, as the supply of coarse wool is not any more than is now needed for practical consumption, the entry of a large and new class of buyers from the United States will of course have the effect of making competition more brisk, and the necessary consequence will be an advance in prices. With a protective duty on manufacturers of 24 per cent, and with wool of the low grades admitted free, there should be no further complaint from the eastern manufacturer that they cannot do business at a profit; or that their mills must remain quiet. These are the reasons, and the principal ones why we may look for a well sustained market, during the next season. Against this, there is the fact, that the low priced wools of all other countries come directly in competition with our own, and in reality, will permit all wools which would now be worth in this market at least thirty cents to come in duty free, and the only check to this having a depreciating tendency on the wool market will be that the supply at first, will hardly equal the demand. The supply of wool during the past year has hardly met the demand, although many of the mills have been working only a part of the time. Prices have therefore been maintained at higher rates than they were during the clipping season of last year. The wants of our farmers and the scarcity of money will probably force a good many to put their wool into market as soon as it is shorn, they will probably get remunerating prices; but we think the policy of the buyers at present is to hold off for a season, hoping that a decline in prices will be the result; and also knowing that the operation of the new tariff, for this season at least, will not probably make the prices of wool any higher than they are now.

The quotations for the following articles in Detroit on the 29th of April were,

BREADSTUFFS AND GRAIN.		SEEDS, PLASTER, SALT, &c.	
Flour, bbl.	\$5.60 a 5.62½	Clover per bush.	\$6.50 a 7.00
Cornmeal, 100 lbs.	1.37½ a 1.50	Timothy.	2.75 a 3.25
Buckwheat, 100 lbs.	3.50 a	Red top.	1.75 a 2.00
Wheat, bush.	1.20 a 1.25	Blue grass.	3.00 a
Corn, bush.	0.75 a 0.80	Richard grass.	3.00 a
Oats, bush.	0.42 a 0.50	Sandusky plaster, bbl.	1.50 a
Barley, per 100 lbs.	2.50 a 2.60	rand River.	1.50 a
BEEF, MUTTON, &c.		N Y Plaster.	1.13 a
Beef on foot.	\$4.00 a 5.00	Sandusky water lime.	1.50 a
Beef dressed.	7.00 a 8.00	N Y do.	1.31 a
Sheep, dressed per lb.	6.75 a 6.06	Salt fine bbl.	1.75 a
Sheep on foot.	4.50 a 6.00	do coarse.	2.25 a
Hogs per lb 12½, pr 100.	8.50 a 9.00	MISCELLANEOUS.	
Turkeys.	1.00 a 1.50	Apples per bush.	62½ a 75
Chickens, per.	37½ a 0.50	White flax, half bbl.	4.50 a 5.00
Eggs.	37½ a 0.50	White beans per bush.	2.00 a
Eggs per d z.	1 a	00 Sheep pel's.	2.00 a
Butter, per lb fresh.	24 a 25	Har. timothy, ton.	11.00 a 13.00
do firkin.	17 a	19 Common.	7.00 a 8.00
Cheese per lb.	9 a 11	Honey.	20 a 25
		Potat. do.	0.90 a 1.00



PAGE DEL. S.F. BAKER ENGR.

SHORTHORN BULL DUKE, (443 of American Herdbook). Bred by S. P. Chapman, of Clockville, Madison Co., N. Y. Purchased by E. Smith, of Clinton, for the Northern Lenawee Agricultural Society.

Michigan Stock Register.

Shorthorns.

No. 34.—DUKE, a bull. Color, a brownish red roan.

Calved July 4, 1854. Bred by S. P. Chapman of Mt. Pleasant Farm, Clockville, Madison Co., N. Y. Sold by him to E. Marks, of Camillus, Onondaga co., N. Y. Purchased from the latter by E. Smith of Clinton, Michigan, for the Northern Lenawee Agricultural Society. Sire, Halton. Dam, Imported Boukee, by the Duke of York 10167 E, see p. 312, AHB.

g. dam, Cicely, by Duke of Northumberland 1940E.
g. g. dam, Craggs, by Son of 2d Hubback, 2682E.

g. g. g. dam, Craggs, from the herd of Thomas Bates, and descended from the herd of the late Thomas Maynard.

Halton is a premium bull, having been awarded several prizes from the State Society of New-York. He was got by Meteor 104A, 11811E, out of imported Lady Barrington 8d, by Cleveland Lad.

g. g. dam, of Duke, Lady Barrington 2d by Belvidere 1706E.

g. g. g. dam, Lady Barrington, by Son of Mason's Herdsman 304E.

g. g. g. g. dam, Young Alicia, by Wonderful 700E.

g. g. g. g. dam, Alicia, by Alfred 28E.

g. g. g. g. g. dam, — by Young Favorite, son of Favorite 252E.

Mr. Smith brought this bull home by way of Detroit in the early part of April, and we had the opportunity of examining him. His pedigree speaks for itself, and is inferior in no degree to that of any animal brought into this State. The dam possesses a directness of descent which is unimpeachable, and possesses a fair proportion of the much valued Duchess blood. The pedigree on the side of sire is as good as it is pure. Duke is of large size, and of great length and depth of body, a fair forequarter not yet

fully developed; hindquarter good, but not perfect. He handles well, and has a mild eye and a good temper. The Lady Barrington stock were all deep milkers, and we shall be much mistaken if this most excellent bull do not prove of the highest service to the dairy stock as well as the fat cattle of Northern Lenawee. Mr. Smith has made a good selection.

No. 35.—SIR DON 2d. Bull. Color, red and white.

Calved March 19, 1857. Owned by Thomas Briggs of Clinton, Lenawee co. Sired by Sir Don, 971A, out of Miss Kerr, see page 481 of American Herdbook.

Sir Don was bred by S. W. Palmer of Norvell, Jackson county, out of Miss Kerr, by Milo 711A, and sired by Dalimore 400A.

Miss Kerr was bred by John Kerr of Fayette co. Kentucky, and is owned by S. W. Palmer; calved June 1851, sired by Milo, out of Ruby by Spice; out of Pomona by Fitz Roslin 2026E.

Devons.

No. 17.—PRINCE OF WALES. A bull of a dark rich red color. Owned by Reuben Allen of Adamsville, Cass county Mich. Calved April 1856. Sired by the Duke of Devon, imported from the Davy herd of North Moulton, Devonshire, England. Dam was Rosina, g. d. Sophia, g. g. d. imported Devon, g. g. g. d. Rosina by Splendor, he by imported Lord Western.

No. 18.—JESSE. Owned by Andrew Elliot of Middlebury, Indiana. Calved March 24, 1857. Sired by Joshua, he by young Duke of Devon, he by old Duke of Devon, imported. Dam of Jesse is Jenny, out of Harriet, who was out of the imported cow Old Cherry.

Jenny was only two and a half years old, when she produced this calf, which is her second one, and Mr. Elliot writes she is a most extraordinary milker, and her progeny is large and fine. Mr. Elliot is the owner of General Scott, a bull bred by Charles Betts of Burr Oak. He is now two years old, and is almost a perfect likeness of the Old Duke of Devon.

For Purchasers of Graduation Lands.

The following act which was passed by Congress on the last day of the late session, is important to purchasers, as it confirms all purchases made in good faith and conformably to the provisions of the law passed in 1854:—

AN ACT TO CONFIRM ENTRIES OF LAND THEREIN NAMED.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all entries of the public lands under the act to graduate and reduce the price of the public lands subject to entry to actual settlers and cultivators, approved fourth of August, eighteen hundred and fifty-four, made prior to the passage of this act, in which the purchaser has made the affidavit, and paid the purchase money, as required by said act, and the instructions issued and in force, and in the hands of the register at the time of making said entry are hereby legalized, and patents shall issue to the parties, respectively, excepting those entries under said act, which the Commissioner of the General Land Office may ascertain to have been fraudulently or evasively made; *Provided,* that this act shall not be so construed as to confirm any of said entries which have heretofore been annulled and vacated by said Commissioner on account of fraud, evasion of law, or other special cause; and provided further, That nothing herein contained shall be so construed as to deprive any actual settler and cultivator of his right to any land on which he resided at the time of an entry by another person under the act to which this act is an amendment.

Approved March 8d. 1857.

JACKSON CO. AG. SOC.—We have received a neat pamphlet containing the premium list of the Fifth Annual Fair of the Agricultural Society of Jackson county. The fair is to be held on the 7th, 8th and 9th of October next. The annual address is to be delivered by the Editor of the Michigan Farmer.

The Society of Jackson county is one of the most spirited in the State, and its grounds are a model, from which other societies may take many useful hints. Five hundred shade trees and Golden Willows have been set out; a house for the accommodation of ladies attending the fair has been built, finished and furnished in beautiful style with chairs and settees. The grounds now produce hay enough to feed all the stock which comes to the fair. The whole grounds, tracts and drives have undergone a complete system of grading; it is designed to enclose the ring which is a very large one with a substantial railing, to set out several hundred more shade trees, to erect substantial stalls and racks for cattle and horses, and to make other improvements of a permanent nature. The people of Jackson city have acted very liberally towards the Society, and they are about to reap the reward, by getting in return the use of a beautiful park, diversified with shaded drives, which will excel anything of the kind there is in the Western States.

MANNY'S REAPER AND MOWER.—It will be seen that Manny's Reapers are getting ready for field work on an extensive scale. During the year they have undergone much improvement, especially in fitting them for mowing Mr. Almon Harrison, of Bloomfield, a very extensive farmer, and a right sort of a man (for he raised the State premium crop of corn at the rate of 118 bushels of shelled corn on ten acres of land last year, and he means to do the same thing this year) was in our office a few days since, and he explained to us that he had an immense and very heavy crop of grass last season, and when haying time came, what to do to get it cut he did not know, as no hands were to be had for love or money. After a little reflection, he thought he would try one of Manny's machines, which he had seen advertised in the Farmer, and he found that driving a pair of horses at a moderate gait, and riding behind, was decidedly a great improvement upon the old

system of swinging a scythe, with the thermometer at 96 in the shade. He found his machine to do the cutting and spreading of his grass better than any ten men could have begun to do it in the same time, and he is therefore well satisfied, and would not now be without one for twice its price. Some of his neighbors, who noticed from a distance, that Mr. Harrison was riding up and down his meadows in a curious kind of a sulkey, inquired of what he "had been doing in his tall grass, with that 'air sulky a-pawing, and a-pawing the timothy, as though it had a spite at your coat tails." "Ah," said Mr. Harrison, "that was a new thing invented to make hay while the sun shines, and it was busy learning me how, when you saw it chasing me up, and pawing the grass. If you had been near it you might have heard it snort! Its great on saving money."

MEASURING HAY IN STACKS.—Mr. S. A. McGeorge, of West Berlin, writes that he both bought and sold his hay for the last 21 years both in this State, and New York, by the following rule: A well settled stack of English hay will yield a ton for every 270 cubic feet, or 10 cubic yards. Of clover hay 12 cubic yards or 324 feet, will weigh a ton. If due caution is paid to the quality, the parties will save the expense and trouble of weighing. The large kind of clover will require 13 cubic yards to make a ton.

THE HOG CHOLERA.—It has been stated that the disease which has destroyed so many thousand hogs in Ohio, Kentucky, Indiana and Massachusetts was occasioned by feeding the animals on the slops of distilleries. The Ohio Cultivator states that this opinion is not correct, as the disease has proved quite as destructive amongst the hogs, which had no connection whatever with distilleries as it proved amongst those fed on the wash of these institutions. No cause nor cure has yet been discovered.

HEDGES.—A correspondent who writes from "town 9 n, of Range 14 w.," Ionia, states that he owns some land on river bottoms of the Grand River, and consequently his fences are washed away every spring by the overflow occasioned by the freshets. He wishes to know what kind of hedge fence would be the best for his purpose, as he has a strong notion of trying to set out one. We answer *none*. There is no hedge plant that would stand the freshets, and live, though all the plants might not be killed, if the hedge grew, which we doubt, it would be liable to have portions of it constantly killed out, so that gaps would be left, and thus render it of little use. We suppose our correspondent's fences were mostly rail, and are floated off with every rise of the river. In this case we think that wire fences would be found efficient, with the posts set a little closer than usual, and sunk at least five feet in the ground.

A WORK FOR THE LIBRARY.—We have received from the MESSRS. TICKOR & FIELDS, of Boston, a specimen of the Household Edition of the Waverly Novels which they are about to issue from the press. Should the series equal in beauty, typographical execution and appropriateness of illustration, the specimen forwarded to us, we do not hesitate to pronounce the edition the cheapest and most excellent edition of the works of Sir Walter Scott ever issued in this country, and few family libraries will be complete without it. When the volumes issue, we shall speak of them on their merits.

GREEN MOUNTAIN BLACK HAWK.—This handsome and stylish Black Hawk, it will seem will stand for a part of this season, at Grand Rapids. The farmers of Kent county will find him of great service in improving their stock.

✍ This season, the Messrs. Mann of Westville, Indiana have got their horse power at work, and ready to supply all demands. It is a most excellent machine judging from the reports we hear of it.

THE GREAT SHINGLE MACHINE.—We have taken out the advertisement of the Scott Shingle Machine for this month; but our readers must not think it is taken out of market. Mr. H. K. Parish is busy having machines manufactured to supply the demand, and he has authorized us to answer all questions, and to make sales of town county and individual rights, and also to receive orders for purchases. It is unquestionably the cheapest, easiest worked, and most economical shingle maker that has ever been offered; none can understand its simplicity and efficiency without having seen it at work.

DAINES' DRAIN TILE MACHINE.—Those who have wet, cold lands, should read what we have said about the draining operations on the State farm at Lansing, and then read the advertisement of Daines' Tile Machine.

✍ Those who want instructions in gardening, are referred to the list of works on this subject offered for sale by Messrs. Saxton & Co., of New York. Orders sent to us for any of these works, with the money and stamps for postage, will be attended to promptly, and the books ordered and forwarded without delay.

OSIER WILLOW GROWING.—This crop is one of the most profitable that can be grown; and we call the attention of those who have low lying marshy grounds, along the banks of streams to the advertisement of Mr. Powell of Oberlin, O. He will forward circulars containing full information on the growing peeling, and marketing to all who may apply for them.

PEABODY'S SEEDLINGS.—We received about the tenth of April, a dozen plants of Peabody's Seedling. They have been carefully set out in pots, and we hope they will do well, although they arrived here very dry, and apparently much shrivelled.

A. CHALLENGE.—It will be seen that Mr. John Muir, of Howell, having full confidence in the speed, bottom and endurance of his horse Cossack, has challenged all the owners of such horses to a two mile match, the particulars of which will be found in our advertising columns. Cossack is a fine specimen of a well bred horse, and is sound, speedy, and of excellent blood.

LINSLEYS STOCK JOURNAL.—The author of the work on the Morgan Horse, has lately started a fifty cent periodical, entitled the "Vermont Stock Journal," and which he is devoting to the subject of all kinds of Farm live stock. From the numbers which we have already seen, it promises to be a very useful paper.

✍ We did not know that a thorough bred Grey Eagle horse was in this state but it will be seen by the advertisement of Mr. John Hamilton, of Flint, that he has a son of the veritable Old Grey Eagle, which ought to give the farmers of that section a chance for improving their horse stock by an infusion of such blood as cannot be picked up every day in the year. The advertisement would have appeared last month, but came too late.

✍ We see that the New England Farmer has been copying Mr. Gages remarks on hair snakes and has received several communications from correspondents confirmation of his views and showing that the reptiles are a sort of parasite of the cricket.

✍ It will be noticed that Mr. F. J. Randall of Brooklyn, Jackson County has a horse of excellent blood, and which may be found at his stable in Jefferson, a short distance from Brooklyn.

✍ It will be noted that Mr. Hamilton of Royal Oak offers some pigs of the celebrated large Ryfield breed.

THOROUGH DRAINING !!

Is the foundation of all improvement in farming !

THE CHEAPEST AND BEST

TILE MACHINE

in the world !

DAINES'

AMERICAN DRAIN TILE MAKER

HAS BEEN AWARDED FIFTEEN FIRST PREMIUMS,
at State and County Fairs.

THE TILE MACHINE invented and patented by JOHN DAINES of Birmingham, Oakland County, Michigan, is now being manufactured in the most thorough manner, and is offered to the farming community, as the

cheapest, most labor-saving, and most complete

invention, and enabling farmers to make their own tiles, that has yet been put before the Agriculturists of the United States.

These machines are made of iron, are easily worked, any man being able to manufacture a first rate article after a few hours practice. They cost delivered in Detroit only \$110. They have two dies, for three and four inch tile; and extra dies, to accompany the machine cost \$3.00 each. These machines will manufacture per day according to the force employed, from

150 to 250 rods of horseshoe or pipe tile.

The machine weighs but 500 pounds, and can be packed and sent to any part of the United States, or to foreign countries, as easily as a piano.

With this machine any farmer who has a fair quality of clay on his farm, can manufacture his own tiles at a cheap rate, and easily save the price of the machine by avoiding the cost of transportation. The machine when in operation, takes up no more room than an ordinary sized kitchen table; it may be worked by two or three men as may be found most convenient and economical, or a man and two boys can keep it in full operation:

For simplicity, durability, economy, cheapness, and amount of work, this Tile Maker challenges the world !

At the present time when thorough draining has become a necessity on alluvial lands, it offers the simplest and cheapest means of furnishing farmers with a draining material far superior to any other material now used for that purpose.

✍ Applications for these machines may be addressed to

JOHN DAINES,
Birmingham, Mich.
or to R. F. JOHNSTONE,
Editor Michigan Farmer,
130 Jefferson Avenue, Detroit.

THE EYES! THE EYES!!

DR. H. BIGELOW, OCULIST,

(Office Room No. 9 Sheldon Block opposite Farmers' & Mechanics Bank, Jefferson ave., Detroit, Mich.)

Respectfully announces to the public generally that he is now engaged in treating the various diseases of the Eye, with much success. Many Certificates and recommendations might here be given, but such things are so common at this day, that it is deemed sufficient merely to say to those afflicted, come and SEE. His treatment is the same as that practised by the late Dr. George Bigelow. May, '57, yr.

DEVON CATTLE FOR SALE !

OWING to circumstances which require me to suspend farming operations, I now offer for sale several head of Devon cattle, consisting of COWS and BULL CALVES. I believe the pedigrees have all been published in the Michigan Farmer, and will be furnished to purchasers. Credit will be given for part of the price, if desired, on good security. My address is still, Burr Oak, St. Joseph co., Mich. feb 17 CHAS. BETTS.

One Dollar a year, Circulation over 100,000 copies weekly.

25 WITNESSES, OR THE FORGER CONVICTED.

JOHN S. DYE IS THE AUTHOR.

Who has had ten years' experience as a Banker, and Publisher and Author of a *Series of Lectures at the Broadway Tabernacle* When for ten successive nights, over

50,000 PEOPLE

Greeted him with rounds of applause, while he exhibited the manner in which counterfeiters execute their Frauds, and the surest and shortest means of detecting them.

THE BANKNOTE ENGRAVERS ALL SAY HE IS THE GREATEST JUDGE OF PAPER MONEY LIVING.

GREATEST DISCOVERY OF THE PRESENT CENTURY

For detecting counterfeit Bank Notes.

Describing every genuine bill in existence, and exhibiting at a glance every counterfeit in circulation; A-ranged so admirably that reference is easy and *Detection instantaneous.*

No Index to examine! No pages to hunt up! But so simplified and arranged, that the Merchant, Banker and Business Man can see all at a glance.

English, French, and German.

Thus each may read the name in his own Native tongue,

Most perfect Bank note List Published.

Also a List of

ALL THE PRIVATE BANKERS IN AMERICA.

A complete Summary of the Finance of Europe and America will be published in each edition, together with all the important news of the day. Also,

A SERIES OF TALES

From an old manuscript found in the East. It furnishes the most complete history of **ORIENTAL LIFE,**

Describing the most perplexing positions in which the Ladies and Gentlemen of that country have been so often found. These stories will continue throughout the whole year, and will prove the most entertaining ever offered to the public.

Furnished weekly to subscribers at ONE DOLLAR a year All Letters must be addressed to

JOHN S DYE, Broker.

Publisher and Proprietor, 70 Wall-street, New-York. May 1 yr pay gr.

SPLENDID FARM

FOR SALE or TO RENT! NEAR MACKINAC.

THE subscriber hereby offers for sale or to rent his farm consisting of 714 acres, situated about 12 miles from Mackinaw. Three hundred acres of this land is prairie or meadow, growing large crops of blue grass and Timothy, suitable for hay. Besides this there are from 50 to 100 acres that has been or is now under the plow. If the purchaser choose he can have a large stock of cattle, implements, and all the material necessary to make the land profitable. For particulars, apply to J. J. Kuhn, corner Monroe ave. and Farmer st., Detroit.

A. D. J. FIRET.

P. S.—This farm also possesses a fine fishery, and can be approached by vessels of large size at several places. Mackinaw affords one of the best markets in Michigan for all farm produce. The climate is mild. The farm sells at a bargain, on reasonable terms of payment.

This farm and stock, will be sold at the very low price of \$4,000 if applied for before the first of June. This is a

GREAT BARGAIN.

The fishing stations alone are worth half the price asked.

For further information apply to

apr 3t

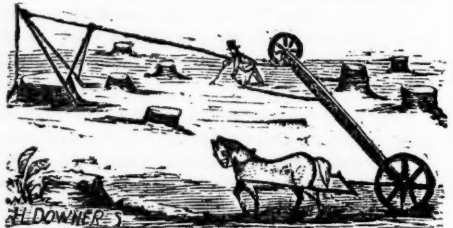
R. F. JOHNSTONE,
Editor of the Mich. Farmer.

HICKOK'S CIDER MILL.

A entire new, enlarged and improved machine.

Price \$40.
Sept:3t

D. O. & W. S. PENFIELD.



WILLIS'S STUMP EXTRACTOR.

THIS powerful implement has during the present spring pulled out

*Twenty-three Stumps in one hour and fifteen minutes,
125 stumps in eight hours !!!*

This machine not only pulls out the stumps, but clears the land of them, and fits it for the plow as soon as the standing timber is cut down.

For the right to use or manufacture these machines in all the territory of the State of Michigan unsold by D. Blackmar, the owner of the patent for Michigan, apply to

R. F. JOHNSTONE,

ASA R. PACKARD,

at the Office of the Michigan Farmer,

130 Jefferson Avenue Detroit.

GREAT ORIGINAL AMERICAN WORKS

ON THE

HORSE.

DADD'S ANATOMY AND PHYSIOLOGY OF THE HORSE, and Dictionary of Veterinary Science,

Splendidly illustrated, Plain, \$2 00
do Colored Plates, 4 00

DADD'S MODERN HORSE DOCTOR.

Containing practical directions for the treatment of diseases and Lameness of horses, with illustrations, \$1 00
The Twelfth Thousand.

LINSLEY'S MORGAN HORSES.

"As interesting as a romance." Giving the History of the Morgan Horse, Pedigrees of the principal Horses of this breed, and General instructions for Purchasing, Breeding and Training Horses. Fifth Thousand now ready, Price, \$1 00

Sent free of postage, upon receipt of price.

C. M. SAXTON & CO.,

Agricultural Book Publishers,

140 Fulton-street, New York.

maylt

STRAWBERRIES.

PARDEE'S Manual for the Culture of the Strawberry, will ensure success, and recommend the best varieties for the different soils and locations. Price 60 cents.

Sent free of postage on receipt of Price.

C. M. SAXTON & CO.,

Agricultural Book Publishers,

140 Fulton-street, New York.

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GRAPES.

Now is the Season for planting.

CHORLTON'S COMPLETE GRAPEGROWER'S GUIDE, 60 cts
CREEMELIN'S VINE DRESSER'S MANUAL, 50 cts
ALLEN ON THE GRAPE, \$1 00

Are works which should be in the hands of every one who has a vine to plant or prune. The increased produce of a single year will pay for them.

Address,

C. M. SAXTON & CO.

maylt Agricultural Book Publishers, 140 Fulton st., New York.

In Lovers of Flowers.

BURST'S FLOWER GARDEN DIRECTORY, \$1 25

BRECK'S BOOK OF FLOWERS, 1 00

Will give you the directions you need for selecting the rarest and best flowers, and for their successful cultivation. These are the best books for amateurs. Sent free of postage on receipt of price.

C. M. SAXTON & CO.

mlt Agricultural Book Publishers, 140 Fulton st. New-York.

TRAVELLING AGENTS WANTED.

WANTED an honest, industrious man in each section of the State, to travel and take orders from samples for MCALLISTER'S HOMEOPATHIC REMEDIES.

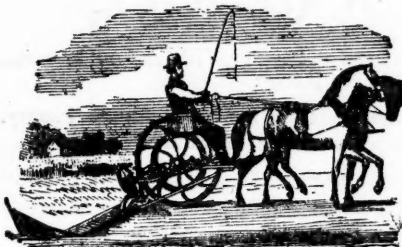
A liberal Salary and a fair commission will be paid. Apply to, or Address (with return postage.)

DR. J. S. MCALLISTER,

Jersey City, N. J.

H. F. MANN'S GREAT WESTERN IRON MOWER.

Patented June 3, 1856.



FARMERS

Do you Want the best mower!!

Get H. F. Mann's

GREAT WESTERN IRON MOWER!

Do you want a mower compact and simple in its construction—durable and not liable to get out of repair?

Get the

GREAT WESTERN IRON MOWER!

Do you want a mower that is of a light draft for two horses?

Get the

Great Western Iron Mower!

Do you want the best Mower ever invented, for the least money?

Buy

H. F. Mann's Great Western Iron Mower!

The frame work is wrought iron—the driving wheel is four feet in diameter. It is furnished with two sickles, one smooth and one serrated edge, with three extra sections for each, either of which may be used as the grass to be cut may require. There will also be three extra guards, and one extra small pinion furnished.

Cash price, \$100
Half cash and half in six months, .. 110

TEN DOLLARS should accompany the order.

The usual warrantee on each machine.

Any further information cheerfully and promptly given on application. Persons ordering machines, should give plain directions for shipping.

Address **H. F. MANN,**
Westville, Laporte Co. Indiana.

Orders received for J. J. MANN & SON'S self-raking Reaper and Mower combined, manufactured at this place.
may, 4ms.

LYON'S KATHAIRON

HAS now become the standard preparation for the HAIR. Its immense sale, nearly

1,000,000 BOTTLES!

per year, attests its excellence and great superiority over all other articles of the kind. The Ladies universally pronounce the KATHAIRON to be, by far, the finest and most agreeable article they ever used. It Restores the hair after it has fallen out; Invigorates and Beautifies it, giving to it a rich glossy appearance, and imparts a delightful perfume. Sold by all dealers throughout the United States, Canada, Mexico, Cuba and South America, for

TWENTY-FIVE CENTS PER BOTTLE.

HEATH, WYNKOOP & Co., Proprietors,

63 Liberty street, New York.

Manufacturers, also, of Perfumery of all kinds, and in great variety.

OSIER WILLOWS.

NO Branch of farming pays better. Look at it! Two to three tons per acre at \$125 per ton, or \$350 per acre at an expense of \$30 per acre, for cultivation, preparing for market. Circulars prescribing method of planting sent free to all applicants.

Cuttings \$2 per 1000.

A discount on all over 10,000 at one order. 50,000 for \$75, or

One hundred thousand for \$100.

Orders respectfully solicited. Address

may 21

J. JEWELL, Oberlin, Ohio.

THE GREAT ENGLISH REMEDY.

SIR JAMES CLARKE'S

CELEBRATED FEMALE PILLS!

Prepared from a Prescription of Sir John Clarke,
M. D. Physician Extraordinary to the Queen.

THIS invaluable medicine is unfailing in the cure of all those painful and dangerous disorders incident to the female constitution.

It moderates all excess, removes all obstructions and brings on the monthly period with regularity. These Pills should be used for two or three weeks previous to confinement; they fortify the constitution, and lessen the suffering during labor, enabling the mother to perform her duties with safety to herself and child.

These Pills should not be taken by females that are pregnant, during the first three months, as they are sure to bring on miscarriage; but as every other time and in every other case, they are perfectly safe.

In all cases of Nervous and Spinal Affections, Pains in the back and limbs, Heaviness, Fatigue on Slight Exertion, Palpitation of the Heart, Lowness of Spirits, Hysterics, Sick Headache, Whites, and all the painful disorders occasioned by a disordered system, these Pills will effect a cure when all other means have failed, and although a powerful remedy, do not contain iron, calomel, antimony, or any other mineral.

Full directions accompany each package. Price, in the United States and Canada, One Dollar.

Sole Agents for the United States and Canada,

I. C. BALDWIN Co.,

(Late J. Bryant), Rochester, N. Y.

TUTTLE & MOSES, Auburn, General Agents.
For sale in Detroit by J. S. CUTHBERT & CO., FARRAND & WHEATON, T. & J. HINCHMAN, GEORGE B. DICENSON & CO., E. C. TERRY, and in one Druggist Store in every town in the United States.

April 1st, 1857.

6m

DOCTOR HOOFLAND'S

CELEBRATED

GERMAN BITTERS,

PURCHASED BY

Dr. C. M. JACKSON, Philad'a, Pa.

WILL EFFECTUALLY CURE

LIVER COMPLAINT, DY-PEPSIA, JAUNDICE,
Chronic or Nervous Debility, Diseases of the Kidneys, and all diseases arising from a disordered Liver or Stomach.

such

as Constipation,

Indigestion, Inward Piles,

Fullness or Blood to the

Head, Acidity of the Stomach,

Nausea, Heartburn, Disgust for Food,

Fullness or weight in the stomach, Sour

Eruptions, Sinking or Fluttering at the pit of

the Stomach, Swimming of the Head, Hurried and difficult

Breathing, Fluttering at the Heart, Choking or suffocating

sensations when in a lying posture, Dimness of Vision, Dots

of webs before the Sight, Fever and Dull Pain in the Head,

Deficiency of Perspiration, Yellowness of the Skin, and

Eyes, Tann in the Side, Back, Chest, Limbs, &c.

Sudden Flushes of Heat, Burning in the

Flesh, Constant Imaginings of

Evil and great Depression of

Spirits.

The proprietor is calling the attention of the public to this preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the disease for which it is recommended.

It is no new and untried article but one that has stood the test for ten years' trial before the American people, and its reputation and sale is unrivalled by any similar preparations extant. The testimony is its favor given by the most prominent and well-known Physicians and individuals in all parts of the country is immense and a careful perusal of the Almanac, published annually by the proprietor, and to be had gratis of any of his Agents, cannot but satisfy the most skeptical that this remedy is readily deserving the great celebrity it has obtained. Principal Office and Manufactory. No. 66 Arch St., Philadelphia, Pa.

GREAT CURE OF PILES.

CAMDEN, N. J., March 12, 1855.

DEAR SIR—It is with much pleasure I take this opportunity of informing you of the great benefit I have derived from the use of a few bottles of "Hoofland's German Bitters." For a number of years I have been sorely and severely afflicted with pain in the stomach, attended by attacks of the Piles, for which I tried a great many remedies, but without affording me any relief. Being advised to use the German Bitters, I did so, using in connection for the Piles, your Spikenard Ointment, and I now inform you that they have entirely cured me and resorted me to health, and I would advise all the afflicted to use your valuable medicines, &c.

Respectfully yours, MARGARET REPSHER.

No. 45 Plum Street, Camden, N. J.

Dr. C. M. Jackson, Philadelphia.

For sale by druggists and storekeepers in every town and village in the U. S. and Canada.
Dec. 1856.—1 year.

1857.

The Fast Trotting Stallion,

1857.

COSSACK,

Will stand this season, commencing on the 27th of April, and ending July 11th, and will be limited to 35 mares only, at the following places :

Mondays, Tuesdays, and Wednesdays, at Stuart's Hotel, Hartland Centre, Livingston County.
Thursdays, Fridays and Saturdays, at E. Merrill's American Hotel, Fentonville, Genesee County.

Good pasturage for mares coming from a distance will be furnished on reasonable terms, and my personal care will be given them : but all accidents and escapes must be at the risk of the owner.

TERMS :

\$15 for the Season, and \$20 to insure a mare with foal.

Season money will be due July 11th, and insurance money as soon as the mare is known to be with foal. Owners of mares not regularly returned to the horse, or owners parting with them before time of foaling, will be held responsible for the insurance money.

COSSACK

Is five years old this spring, is a light chestnut, stands fifteen and a half hands high, is just in his proportions, and weighs over one thousand pounds. His powers of endurance are extraordinary, and he possesses a temper which enables any boy to handle him. He is perfectly sound and free from vice. The sire of Cossack trotted in harness, twice around a half mile track in 2.44, at the Provincial Show at Hamilton, C. W., after having covered 100 mares the previous season. The winter following he trotted on the ice, at the same place for a purse of \$100, against the State of Maine and five others, beating them in 2.37 and 2.38. He also sired Silver Tail, Butcher Boy, Queen City, Poscora, and many other fast trotters. Silver Tail often trotted in public from 2.40 to 2.45. Her last match was at Buffalo, when she trotted mile heats, beat 3 in 5 to a wagon, beating a horse owned by Albert Lacy and Trifle, in 2.44, 2.43, and 2.42. Queen City, as above mentioned, was also got by the sire of Cossack, and was bought by Geo. Metaker of Buffalo, she having shown him when purchased 2.37. She was also matched against a tried horse to trot a match of ten miles over the Coldspring course, Buffalo, and beat him with ease in 30 min. 5 seconds.

PEDIGREE OF COSSACK.

COSSACK was got by Warrior; he by Cœur de Leon, bred by Mr. Blackwell of St. Thomas; Cœur de Leon by a fast trotting stallion owned at Toronto, C. W., out of a mare by Bush Messenger, that could trot in 2.50.

Cossack's dam was got by a son of Old Sir Henry, that ran the match with American Eclipse; her dam was by Foxhunter. The dam of Cossack trotted over the London track, C. W., after a train of three weeks only, in 3.03!

[Certified by Austin Doty, and Dr. McKenzie.]

Challenge for \$200 a side!!

I propose to match the trotting stallion **COSSACK**,

TWO MILE HEATS—Against any Trotting Stallion owned in the State of Michigan,

That stands this season for mares. The horses to go as they please, over the Detroit Course, during the week succeeding the State Fair. The match to come off on a fair day, when the track is in good condition. This challenge will remain open till July 5th; the stakes to be deposited in the hands of R. F. Johnstone, Esq. or H. R. Andrews, Esq. of Detroit, on the first day of August. No forfeit—Play or pay.

As several Vermont Black Hawk Trotting Stallions have been brought, within the two past years, very prominently before the public, the attention of their owners is respectfully invited to the above challenge.

Howell, April 13, 1857.

JOHN MUIR.

Letters addressed to me at Howell, Fentonville, or Hartland Centre, will be promptly answered on receipt of the same.—J.M.

FRANK.

THIS Young Horse is five years old the fifth day of May, next; is black, 16 hands high, and from 1100 to 1200 pounds in weight—fine proportion and heavy muscle—well calculated for road, track or saddle.

PEDIGREE.—Frank was sired by Olcott Oscar, who was awarded the first premium at the Michigan State Fair at Ann Arbor, in 1850, and also first premium at the New York State Fair at Saratoga, in 1853, in foreign class, and premium at the National Fair at Springfield, Mass., the same Fall. Oscar trotted on the Cambridge course, in Fall of 1853, inside 3 minutes the turn round the track without fit or train.

Oscar was sired by the celebrated Ran horse, Oscar, who was imported into Tennessee in 1828; his dam by Messenger's Duroc; he by Wilks' Wonder. Frank's dam was a get of a son of Andrew Jackson; her dam a full blood Lower Canada Mare, of great strength and action; his colts have proved very fine.

Said horse is the property of the subscriber, bred by himself, and can be seen at his stable in Jefferson, 3 miles west of Brooklyn, Jackson County, Mich.

March 1st, 1857.

F. J. RANDALL, Proprietor.

VALUABLE PIGS FOR SALE.

THE Subscriber will have for sale about the 1st of May, a fine lot of Pigs, of a cross between the Bedford and Suffolk breeds. They will be sold at reasonable rates, if taken at from four to six weeks old. These pigs are bred from good stock.

Address, E. HAMILTON, Royal Oak, Oakland Co., Mich.

THOROUGH BRED DEVONS.

C. S. WAINWRIGHT'S

First Public Sale of Thorough-bred North Devon Cattle, to be held at "THE MEADOWS," on the 17th day of June, 1857.

THE SUBSCRIBER intends holding his first public auction of North Devon Cattle on the above named day, at his residence "The Meadows," four miles north of Rhinebeck Station on the Hudson River Railroad.

The animals to be sold will number between 20 and 25 head, males and females, from calves to full grown; all of which have been either bred or imported by himself, and have perfect herdsbook pedigrees. As a lot he believes he may say with truth, they are fully equal to any ever yet offered to the farmers of the U. States. Among the number will be the imported bull Mayboy (71), and the imported cows Nonpareille (924), and Moss Rose (904).

Catalogues containing full pedigrees and all necessary information, will be ready on the 15th of April, and will be sent to a desiring it. The subscriber will be happy to have gentlemen visit his herd at any time.

ALL THE SALES will be bona fide; and no animal on the catalogue will be disposed of until the auction.

C. S. WAINWRIGHT,
 "The Meadows," near Rhinebeck, N. Y.

may2m.

BLOODED HORSE

BLACK HAWK BEAUTY.

COST \$2,500.

WEIGHS 1158 POUNDS.

A. HEALEY, PROPRIETOR.

This Horse was purchased in November last of Ira Gray, of Waterbury, Vermont, at a cost of \$2,500, and was raised by Sylvanus Douglass, of Chittenden County, Vermont.

PEDIGREE.

Black Hawk Beauty was sired by Hill's Old Vermont Black Hawk, of Bridport, Vt, who earned for his owner over forty-seven thousand dollars without leaving his stable. His last season netted seven thousand dollars! Vermont Black Hawk was sired by Sherman Morgan; he by the original or Justin Morgan; he by True Briton; he by Morton's Traveler, [imported] among whose ancestors are found English Felipse, Flying Childers and Godolphin Arabian. The dam of True Briton was De Laney's imported race mare.—The dam of Justin Morgan was sired by Diamond; he by the Church Horse; he by [imported] Wild Air. The dam of Sherman Morgan was imported, and a fast trotter. The dam of Vermont Black Hawk was a black mare from Lofly by Wild Air, among whose ancestors are found Godolphin Arabian, Flying Childers and Eyerly Turk. The dam of Black Hawk Beauty was English Hunter, (imported.)

He is half brother to the following celebrated trotters: Ethan Allen, the fastest trotting stallion in the world; Lancel, who has beaten the best time of Lady Suffolk; Black Ralph; Belle, of Saratoga; Lady Litchfield; Black Hawk Maid; Sherman Black Hawk; Ticonderoga; Lady Sherman; Prince Albert; Red Leg; Cleopatra; Nelly; Lone Star; Henry Clay; Flying Cloud; Plato; Black Hawk Chief; Champion Black Hawk; Sherman Belle; Don Juan. &c.

It will be seen by the above pedigree, that Black Hawk Beauty is descended from the best families of horses in Europe and America, and among his ancestors and near relatives are some of the fastest going stallions ever known. It is well understood that the horses known as the English Hunter, possess great style and speed, with extra powers of endurance. Old Black Hawk has been repeatedly upon the track, and was never beaten. Black Hawk Beauty trotted, when three years old, a mile in 2:52. Since then he has not been trained, owing to a wound upon the ankle.

DESCRIPTION.

Black Hawk Beauty is seven years old, is a beautiful red chestnut, fifteen and a half hands high, and weighs, in good condition 1163 pounds. In form he is long and rather rangy for the Morgan stock. He is exceedingly muscular, with his fine head, large, expressive eyes, large nostrils, long erect neck, capacious chest, round body, broad loins, short back, long and muscular quarters, deep and full flanks, broad, sinewy limbs, fine glossy coat, and large, prominent veins, give unmistakable evidence of a pure, high bred animal. In temper he exhibits gentleness. For intelligence, energy of character, ease and style of action, he has no superiors, and few if any equals. He was awarded the first premium at the last annual Fairs of Kalamazoo and Van Buren Counties, as a stallion of all work, and the first premium as foreign stock.

TERMS.

Black Hawk Beauty will be kept at the stable of E. Landon, on Water Street, directly in rear of the Bardick House, from May 1st 1857, to July 31, 1857, which will end the season, at \$25 the season. Insurance can be effected by contract. Five dollars in all cases to be paid when the service is rendered. Mares from a distance furnished good pasturage, and all reasonable attention given them. But accidents or escapes must be at the risk of owners.

Kalamazoo, Mich.

A. HEALEY.

STEEL CULTIVATOR TEETH.

THE subscriber having purchased the exclusive right of manufacturing and vending **D. B. ROGERS' Improved Steel Cultivator Teeth**, throughout the north half of the State of Indiana and all the State of Michigan, except the counties of Oakland, Lapeer, Genesee, Calhoun, Kalamazoo, and Hillsdale, now offers to supply his district with said Teeth, made of the best quality of spring steel, and in the latest improved shape.

These Teeth are too well known to need any certificates of their usefulness. They have taken the first premium at every State and County Fair wherever exhibited.

For sale in every principal city and village throughout the above named district.

The subscriber has also purchased the exclusive right of manufacturing and vending **D. B. ROGERS' IMPROVEMENT IN THE WHEEL CULTIVATOR**, throughout most of the States of Michigan and Indiana. At the Michigan State Fairs in 1853 and 1854, he exhibited one of these Machines, filled with steel teeth, and received the first premium and a diploma. This Machine, filled with Rogers' improved steel teeth, is considered by all farmers who have used them, to be the best Wheel Cultivator in use, not only for preparing summer fallows and putting in grain, but for the cultivation of corn when planted in drills.

No farmer will dispense with the use of the above named farming implements who has any knowledge of their usefulness.

All orders for Wheel Cultivators, or Cultivator Teeth, filled on short notice.

CAUTION.—All persons are prohibited the use of these Teeth and Machines, in said district, unless purchased of the subscriber or his duly authorized Agents. Address, **T. A. FLOWER, PONTIAC, MICH.**

April 1, 1856.

1857. FARMER'S WAREHOUSE. 1857
BURNHAMS & BURRELL,

Dealers in all kinds of Agricultural Implements, Garden and Field Seeds, Salt, Plaster and Water Lime.
Warehouse near Railroad Depot, BATTLE CREEK, MICH. [oct-12]

A. GILMORE'S

PATENT BEE HOUSE AND HIVE:

PATENTED JUNE 5TH, 1849.

THE subscriber having purchased the right of GILMORE'S BEE HOUSE and HIVE for the counties of

WAYNE, OAKLAND, AND MACOMB,

is now prepared to sell

INDIVIDUAL RIGHTS

with a book of instructions for building House and Hive, and the management of bees, for five dollars.

A liberal discount to clubs for town rights.

The plates and descriptions are plain, giving the length, width, and thickness of each piece of timber, so that any carpenter can build the house and hive from the book. With this Bee House and Hive, any individual can have the bees perfectly under his control, and obtain the surplus honey without the destruction of the bees.

A. M. BODWELL.

Ann Arbor, March 20, 1856.

N. B. Agents wanted for selling right in every town in the above counties.

April 1st

HENRY E. DOWNER.

WOOD ENGRAVER.

No. 130 Jefferson Avenue, Michigan Farmer Office.

DETROIT, MICH.

Engravings of Agricultural Implements, Views of Buildings, Animal Portraiture, Machinery, Vignettes, Bill Heads, Business Cards, Stamps, Seals, &c., &c. done on the shortest notice and in the best styles of the art, at New York charges.

P. O. address, Box 387.

dec-12.

BROOM CORN SEED, King Phillip, Flower, Early Dutton and
other varieties of SEED CORN, at **PENFIELDS',**
Feb 6m 103 Woodward avenue.

GREEN MOUNTAIN BLACK-HAWK,

Winner of the Sweepstakes Premium at the Michigan State Fair in 1854!

Also the first premium at the Branch County Fair in 1854, as a horse of all work, and in 1855 as the best stallion for speed. He was also awarded the first premium by the State Society in 1855, as the best horse of all work. At the last State Fair he was awarded a diploma as first premium in the list open to the world to compete.

When 3 years old he trotted for a premium in Addison County, Vermont, winning with ease in 3:10.

In August, 1856, he won a premium of \$100 on the Coldwater trotting course, making the third mile in 2.53, when very fat and out of condition.

He trotted last summer without preparation, and during his season in 2.47.

PEDIGREE.

Green Mountain Black-Hawk

Will be seven years old in July, is a beautiful dark chestnut, sixteen hands high, and weighs over 1100 pounds; he was bred in Addison county, Vermont, and sired by Sherman Black Hawk, who trotted at the National Show in Boston in the fall of '55, in 2:35; he by Hill's Black Hawk, who was by Sherman Morgan; he by the original or Justin Morgan, by True Briton; he by Morton Traveler, (imported); he by the celebrated O'Kelly or English Eclipse; he by King Herod; by Black; by Old Cade. King Herod was by Tartar, his dam Cyron, by Blaze, a son of the great Flying Childers; Black was by Godolphin Arabian; Justin Morgan's dam was by Diamond; he by the Church horse; he by imported Wildair. The dam of Black Hawk was a large black mare from Lofly by Wildair; grandam Doll by Wildair—she was a fast trotter. The dam of Sherman Morgan was imported and a fast trotter; Sherman Black Hawk's dam was by Messenger, Leonidas and Bellfounder. The dam of Green Mountain Black Hawk was got by Gifford Morgan; he by Barbank, who was the original or Justin Morgan. Grandam was a Morgan mare supposed to be by Sherman Morgan.

It will be seen by the above pedigree, that GREEN MOUNTAIN BLACK HAWK possesses the original Morgan blood in such purity as is seldom found at the present day, and descended through two of his best sons, Sherman and Barbank.

He combines size, style, beauty, speed and action in perfection, very rarely found in one horse; among his ancestors are numbered the best trotting stallions ever known.

As a stockgetter he has more than met the expectations of his warmest admirers. Specimens of which it will give me pleasure to show at any time.

GREEN MOUNTAIN BLACK HAWK

Will be kept on my farm in COLDWATER, during the present season, *except the month of July*, during which month he will be kept at the city of *GRAND RAPIDS*.

TERMS:—\$20 FOR THE SEASON, AND \$25 TO INSURE A COLT.

Mares from a distance will be provided with good care and pasturage.
Coldwater, March, 1857.

my.3t

F. V. SMITH.

TO FARMERS AND GARDENERS.

THE Subscribers offer for sale 40,000 barrels of their

NEW AND IMPROVED

POUDRETTE.

Manufactured from the night-soil of New York city, in lots to suit purchasers. This article (greatly improved within the last two years) has been in the market for eighteen years, and still defies competition, as a manure for Corn and Garden Vegetables, being cheaper, more powerful than any other, and at the same time free from disagreeable odor. Two barrels (\$3 worth) will manure an acre of corn in the hill, will save two-thirds in labor, will cause it to come up quicker, to grow faster, ripen earlier, and will bring a larger crop on poor ground than any other fertilizer, and is also a preventative of the cut worm; also it does not injure the seed to be put in contact with it.

The L. M. Co. point to their long-standing reputation, and the large capital (\$100,000) invested in their business, as a guarantee that the article they make shall always be of such quality as to command a ready sale.

Price, delivered in the city free of charge and other expense—

One barrel.....	\$2 00
Two barrels.....	3 50
Five barrels.....	8 00
Six barrels.....	9 50

And at the rate of \$1.50 per barrel, for any quantity over six barrels.

A Pamphlet, containing every information, will be sent [free] to any one, applying for the same. Our address is—

THE LODI MANUFACTURING CO.,
Office, 60 Courtlandt street, New York.

feb 4t

PLEASE TO READ THIS!

NO PERSONS OUT OF EMPLOYMENT.—Wanted, persons in every town and village, to circulate new and useful Pictorial Works. Book Agents, Farmers' Sons, everybody with a small cash capital, can make money by selling our books. Discount liberal Catalogues and all letters sent free to applicants. For full particulars address, post paid, ROBERT SEARS, Publisher, No. 151 William-st., New York.

feb4t

GENESEE COUNTY!

THE THOROUGH-BRED HORSE

YOUNG GREY EAGLE,

Will stand this season at the stable of the subscriber

in Flint, Genesee Co.

TERMS: \$10 for a single service; \$15 for the season; and \$20 to ensure a foal.

Season to commence on the 15th of April and end on the 4th of July.

Description:

YOUNG GREY EAGLE was purchased by the subscriber of E. H. Blackburn in Kentucky at two years old; he is now five years old. He is a beautiful dark grey, fifteen and three quarter hands high, for style, action, bone, and muscular power, he is not excelled by any horse, and he is from the best family of horses in the United States.

PEDIGREE.

YOUNG GREY EAGLE

Was sired by by Old Grey Eagle of Kentucky, and he by the imported horse Woodpecker. Young Grey Eagle's dam was by Lance; he by American Eclipse, and Eclipse by Old Duroc; Duroc by imported Diomedes.

Mares sent from a distance will be promptly attended to. Mares insured, if parted with before foaling time, the owner will be held for insurance.

JOHN HAMILTON.

Flint, March 25, 1857.

may3m.

POLAND AND POTATO OATS.

RAISED expressly for us, for Seed; Buckwheat, Barley, Broom Corn; also a general assortment of Grass Seeds. At D. O. & W. S. PENFIELD'S Seed Depot.

